THE USE OF INDICATORS IN SUSTAINABILITY REPORTS PRODUCED BY CORPORATIONS OPERATING IN THE CANADIAN OIL SANDS INDUSTRY

by

Jennifer Adelina Dell'Aquila

Bachelor of Environmental Studies, Honours Environment and Business, University of Waterloo, 2010

> A thesis presented to Ryerson University

in partial fulfillment of the requirements for the degree of Master of Applied Science In the program of Environmental Applied Science and Management

> Toronto, Ontario, Canada, 2016 ©Jennifer Adelina Dell'Aquila 2016

AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I authorize Ryerson University to lend this thesis to other institutions or individuals for the purpose of scholarly research.

I further authorize Ryerson University to reproduce this thesis by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

The Use of Indicators in Sustainability Reports Produced by Corporations Operating in the Canadian Oil Sands Industry

Jennifer Adelina Dell'Aquila Master of Applied Science, 2016 Environmental Applied Science and Management Ryerson University

This thesis aims to explore and understand the use of indicators in sustainability reports produced by 13 corporations operating in the Canadian oil sands industry. The literature review demonstrated that little work has been done to understand the use of indicators and reporting within this industry.

Three research questions are addressed through a content analysis of sustainability reports. The analysis shows that when looking at indicators based on the common themes or sustainability pillar they address, there appears to be consistency across the industry. However, when looking at indicators individually, there is a great deal of inconsistency making comparison of reports and benchmarking incredibly difficult.

This research has a number of practical implications, particularly, it is the first comprehensive review of indicators being disclosed in the industry and can be used by a variety of stakeholders. Further, this research sets the foundation for a number of other possible streams of future research.

ACKNOWLEDGEMENTS

I would like to thank Dr. Cory Searcy and Dr. Alan Fung for all their assistance, guidance and most importantly ongoing support during my time at Ryerson University.

I would also like to thank my mom and dad who have been my number one supporters for as long as I can remember. Without their continuous love, guidance and motivation I would not be where I am today.

Finally, I would like to thank all my friends and family who helped me more than they will ever know by providing encouragement as I worked through balancing my full time job and my part time master over these last 5 year.

Thank you!

TABLE OF CONTENTS

Author's declaration ii			
Abstract iii			
Acknowledgementsiv			
Table of contents v			
List of Tables viii			
List of Figuresix			
List of Appendicesx			
List of Abbreviationsx			
1 Introduction 1			
1.1 Overview			
1.2 Problem Statement			
1.3 Purpose and Research Objectives			
1.4 Scope			
1.5 Thesis Organization			
2 Literature Review			
2.1 Introduction			
2.2 Sustainable Development6			
2.2.1 Corporate Sustainability7			
2.2.2 Corporate Social Responsibility			
2.3 Motivations for Corporate Sustainability			
2.3.1 Stakeholder Theory11			
2.3.2 Resource Dependency Theory11			
2.3.3 Institutional Theory12			
2.4 Sustainable Development in the Extractive Sector			
2.5 Sustainability Reporting15			
2.5.1 Sustainability Reports			
2.5.2 GRI Guidelines			
2.6 Sustainability Indicators			
2.6.1 Indicators			
2.6.2 Corporate Sustainability Indicators			

	2.6	.3	The Role of Indicators	22
2	2.7	Re	porting in the Oil and Gas Sector	23
2	2.8	Co	nclusions	25
2	2.9	Mo	tivations for Research	25
2	2.10	Re	search Questions	26
	2.1	0.1	Central Question	26
	2.1	0.2	Sub Questions	26
3	Me	thod	s	27
З	8.1	Co	ntent Analysis	
З	8.2	Rel	iability	
Э	3.3	Sar	mple Selection	
Э	8.4	Dat	a Collection and Analysis	31
4	Res	sults	and Analysis	35
4	l.1	Sar	mple	35
	4.1	.1	Report Presence and Type	
	4.1	.2	Report Lengths	
4	.2	Ind	icator Presentation	
	4.2	.1	Indicator Summaries	
4	.3	Dat	abase of Indicators	41
	4.3	.1	2010 Reports	41
	4.3	.2	2014 Reports	43
	4.3	.3	Database of Indicators - Year over Year Comparison	
4	4.4	Ind	icators by Theme	
	4.4	.1	2010 Reports	
	4.4	.2	2014 Reports	
	4.4	.3	Indicators by Theme - Year over Year Comparison	54
4	.5	Ind	icators by Pillar	57
	4.5	.1	2010 Reports	57
	4.5	.2	2014 Reports	
	4.5	.3	Indicators by Pillar - Year over Year Comparison	60
5	Dis	cuss	sion and Conclusion	61

5.1	Dis	scussion	. 61
5.1	.1	Key Findings on Indicator Frequencies	. 61
5.1	.2	Key Findings on Indicator Themes	. 62
5.1	.3	Key Findings on Indicator Pillars	. 64
5.2	Su	mmary	. 65
5.3	Co	ntributions	. 66
5.4	Lim	nitations	. 67
5.5	Re	commendation for Future Research	. 68
5.6	Co	nclusion	. 68
Appendices			
6 References			52

LIST OF TABLES

Table 1: 9 Steps for Content Analysis – Krippendorff (2013)	29
Table 2: Sample	31
Table 3: Research Question Method, Scope and Output	
Table 4: Themes and Pillars	34
Table 5: Sample Information	35
Table 6: Report Length by Type – 2010	
Table 7: Report Length by Type – 2014	
Table 8: 2010 Indicators Reported on by 2 or More Corporations	
Table 9: 2010 Number of Indicators by Report	43
Table 10: 2014 Indicators Reported on by 2 or More Corporations	44
Table 11: 2014 Number of Indicators by Report	46
Table 12: Indicators Reported by 2 or more corporations for both Reporting	Periods.47
Table 13: Themes and Descriptions	
Table 14: Indicators by theme for 2010 Reporting Corporations	50
Table 15: 2010 Emissions/Air Indicators and Subcategories Reported by 2 or	r more
Corporations	51
Table 16: Indicators by theme for 2014 Reporting Corporations	52
Table 17: 2014 Health and Safety Indicators and Subcategories Reported by	2 or more
Corporations	53
Table 18: # of Indicators Reported by Theme - YoY Change	55
Table 19: # of Corporations Reporting by Theme - YoY Change	56
Table 20: Themes and Pillars	57
Table 21: # of Indicators by Pillar - YoY	60
Table 22: # of Reporting Corporations by Pillar - YoY	60

LIST OF FIGURES

27
32
33
34
37
37
39
40
58
58
59
59

List of Appendices

Appendix 1: 2010 Raw Data Spreadsheets	71
Appendix 2: 2014 Raw Data Spreadsheets	92
Appendix 3: 2010 Indicator Database	118
Appendix 4: 2014 Indicator Database	135

LIST OF ABREVIATIONS

ACCA	Association of Chartered Certified Accountants
API	American Petroleum Institute
CAPP	Canadian Association of Petroleum Producers
CEPA	Canadian Environmental Protection Act
CGA	Certified General Accountants Association of Canada
COSIA	Canadian Oil Sands Innovation Alliance
EHS	Environment, Health and Safety
ghg	Greenhouse Gas
GHGRP	Greenhouse Gas Emissions Reporting Program
GRI	Global Reporting Initiative
IISD	International Institute for Sustainable Development
IOGP	International Association of Oil and Gas Producers
IPICEA	International Petroleum Industry Environmental Conservation Association
NPRI	National Pollutant Release Inventory
PwC	PricewaterhouseCoopers
UN	Unite Nations
WBCSD	World Business Council on Sustainable Development
WCED	World Commission on Environment and Development

1 Introduction

1.1 Overview

As conventional sources of crude oil diminish, the Canadian oil sands, mainly located in Alberta, have become an essential component to the ongoing challenge of providing viable sources of fuel for the ever growing needs of society not only in Canada, but globally.

The Canadian oil sands are proven to be one of the largest oil reserves in the world, trailing only Saudi Arabia and Venezuela (Government of Alberta, 2016). However, the extraction of bitumen found in oil sands to produce synthetic crude oil is not without consequence. The process is carbon intense and can result in a negative impact on the environment. Given this impact, strict monitoring to not only ensure compliance with regulations to preserve the environment, but also to ensure corporations extracting these materials are doing so in an ethical and responsible way is essential. A key component to achieving this is the identification and use of sustainability indicators that will provide reliable, relevant and consistent information across the industry. The purpose of this thesis is to examine the use of sustainability indicators in sustainability reporting in Canada's oil sands industry. This will lead to an improved understanding of the consistency and comparability of reports being produced by key oil sands corporations.

The literature review considered existing research in the areas of sustainability, sustainability reporting and the use of sustainability indicators. The literature review shows that, while there is relevant research in each of these areas, there is very little information on the use of sustainability indicators and the state of sustainability reporting at the industry level; specifically on the Canadian oil sands.

This study is intended to document the relevant oil sands sustainability indicators and understand the consistency and comparability of sustainability reports across the industry. Further, the research aimed to understand if and how the industry has evolved

with reporting over a 4 year period. A content analysis was completed on reports produced by 13 key oil sands corporations in two time periods; 2010 and 2014. The results of this content analysis are a database of indicators used for each time period along with a comprehensive look at the consistency across corporations and the evolution over time. This provided the basis for an in-depth analysis and a set of recommendations for going forward.

1.2 Problem Statement

In the 1980's, the United Nations (UN) General Assembly recognized that there was a serious issue with the damage being done to the environment and the depletion of our natural resources around the world (WCED, 1987). In response, the General Assembly established the World Commission on Environment and Development (WCED) (WCED, 1987). Long term preservation of the environment and the responsibility of all nations to ensure they are united in the goal of this preservation was the goal of the commission (WCED, 1987). Gro Harlem Brundtland, was tasked with leading this project and appointed as Chairman of the Commission (WCED, 1987). In October of 1987, the report "Our Common Future" was released (WCED, 1987). This document is credited with popularizing the phrase "sustainable development". The phase was defined as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987).

Since the widespread acceptance of this definition, the concept of sustainable development has been further defined to include social, environmental and economic aspects. Since 1987, this term has gained momentum and is now used in industry, education, government and society. The concept of sustainable development is now one that is seen as the responsibility of all of industry and its players. Specifically, corporations have faced ongoing pressure from society to incorporate this idea of development into the core of their business operations.

Success of corporations, and other entities, in meeting this overarching goal of sustainable development requires measurement. Key performance indicators identified

as sustainability indicators can be used to achieve this critical component. For the purpose of this research a sustainability indicator is defined as "indicators that measure progress made in sustainable growth and development" (UN, 1997). An indicator is defined as "a sign that shows the condition or existence of something" (Merriam-Webster Dictionary, 2016) or "a device that shows a measurement" (Merriam-Webster Dictionary, 2016). Without measurement, there is no way to determine progress towards sustainable development and sustainability as a whole. Sustainability indicators are designed to establish baselines and measure progress and success in mitigating and rectifying the identified social, economic and environmental issues. Corporations have recognized the need for measurement and sustainability reporting, which encompasses both quantitative and qualitative, is becoming more widespread. Some tools are available to corporations to help guide the creation of these reports. For example, The Global Reporting Initiative (GRI) released its most recent set of sustainability indicators, the G4 guidelines, in 2013 with additional sector level supplements. Other reporting initiatives include Environment Canada's Greenhouse Gas Emissions Reporting Program (GHGRP) and the Public Accountability Statements Regulations for banks, Insurance companies and Trust and Loan companies in Canada. However, despite programs and tools like these, corporate sustainability reporting continues to be largely a voluntary initiative. Thus, the type and quality of information amongst reports even in the same industry is largely inconsistent making comparison and practical use by stakeholders and society as a whole extremely difficult.

Some work has been done to explore the use of indicators at a corporate level (Roca and Searcy, 2012) and the comparability of reports produced using the GRI guidelines in the mining sector (Boiral and Henri, 2015). However, little work is available on understanding the actual indicators being reported on, and the information being provided by the oil and gas sector. Further, little work has been done to understand the consistency of information being provided, specifically by different corporations in a given industry, and particularly over time.

1.3 Purpose and Research Objectives

The purpose of this thesis will be to explore the use of indicators and the consistency of sustainability reporting across corporations operating in Canada's oil sands industry. Three key objectives support this purpose:

- 1. To explore what indicators Canada's oil sands industry is currently reporting on.
- 2. To analyze the consistency and comparability of sustainability reports across Canada's oil sands industry.
- 3. To determine how indicator disclosures, consistency, and comparability in the Canadian oil sands have evolved and changed over time

1.4 Scope

This thesis was based on sustainability reports produced by 13 corporations operating in Canada's oil sands industry for the 2010 and 2014 reporting periods. For the purpose of this study a sustainability report was defined using the World Business Council on Sustainable Development (WBCSD) definition from the report "Sustainable Development Reporting: Striking the Balance" which reads "We define sustainable development reports as public reports by companies to provide internal and external stakeholders with a picture of corporate position and activities on economic, environmental and social dimensions. In short, such reports attempt to describe the company's contribution toward sustainable development." (WBCSD, 2002). The research specifically focused on printable pdf formatted reports produced by each of these corporations. Reports included were any form of a sustainability, corporate social responsibility or equivalent report. If available, specific oil sands sustainability reports were used since the research was intended specifically to look at information availability for this industry.

1.5 Thesis Organization

This thesis is organized into 5 remaining chapters. Chapter 2 contains a literature review exploring the evolution of sustainability and sustainable development. It takes a deeper look into corporate sustainability and corporate social responsibility and how

these have developed into what we see in modern day society. The literature review briefly explores the definition and roots of each of these themes. It then goes onto discuss sustainability reporting and the use of indicators for this type of reporting. Finally, the literature review touches on relevant literature pertaining specifically to reporting in the oil and gas industry, of which there is relatively little to date. Chapter 3 outlines the research questions and main objectives for this thesis. This chapter also details the methods used to complete the research. Chapter 4 reviews the results and provides an analysis of the information studied. This includes complete indicator databases for the Alberta oil sands industry for both the 2010 and 2014 reporting periods. The analysis looks at the emergence of themes among indicators across the industry for both periods and how this has changed over time. Finally, the analysis looks at the breakdown of indicators across the three pillars of the triple bottom for both time periods. Lastly, chapter 6 concludes the thesis with both a discussion and summary of the findings, along with contributions, limitations and recommendations for further research and a final conclusion.

2 Literature Review

2.1 Introduction

The purpose of this literature review will be to explore and understand the use of sustainability indicators by corporations and, in turn, the use and purpose of sustainability reporting. The literature review will set the stage for a deeper analysis into the use of sustainability reporting and indicators across companies operating in Alberta's oil sands. The first section of the review will look at sustainability and how this is applied generally at the corporate level as it relates to corporate sustainability and corporate social responsibility. The second section of this review looks at motivations for reporting by corporations. This is followed by a section looking at how the concept of sustainability reporting and the GRI along with the use of indicators and the role they play. Finally, there is a review of current literature on work completed looking at the oil and gas industry, followed by conclusions and motivations for research.

2.2 Sustainable Development

As previously mentioned, the most widely recognized and accepted definition for sustainable development was released in the 1987 report "Our Common Future". This report defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). In the years following the release of this report, the idea of sustainable development was broadened to not only include the environmental aspect of development, but also the social and economic pieces of the puzzle (Steurer et al., 2005). The definition was again expanded to not only consider society on a macro level, but also at a micro level through the inclusion of the concept of "corporate sustainability" (Steurer et al., 2005). The idea of sustainable development is in essence a meeting ground and starting point for environmental and development groups (Dresner, 2002). Dresner (2002) outlines that the idea was intended to be a softer approach to relaying the environmental message which had typically been a much harsher doom and gloom approach. The hope was that the idea of sustainable development would help to ensure that environmental concerns would be incorporated into government policy (Dresner, 2002).

Despite the acceptance of this definition it is important to note that there has been debate and controversy surrounding the idea of sustainable development. Dresner (2002) criticizes the definition for being vague and meaningless. Dresner (2002) outlines that this vagueness stems from uncertainty around what the term "development" really means. The 1987 report "Our Common Future" states that "If large parts of the developing world are to avert economic, social, and environmental catastrophes, it is essential that global economic growth be revitalized" (WCED, 1987). In other words, a strong economy is imperative to ensuring a healthy environment (Steurer et al., 2005). However, Daly in his 1996 book "Beyond Growth: The Economics of Sustainable Development" argues that growth, both population and production, must remain within the carrying capacity of the environment (Daly, 1996). Despite the criticisms, sustainable development seeks to achieve a balance between three distinct areas; economic, environmental and social performance (Elkington, 1998).

2.2.1 Corporate Sustainability

Business and corporations play an integral role in sustaining economic and social development. However, corporations of all types are being faced with responsibilities and challenges that extend beyond financial commitments to their shareholders. Corporations are no longer looking at "if" they need to consider both the environmental and social impacts on the communities they operate in, instead they are faced with looking at "how" (Epstein, 2008).

Freeman suggests that as the business environment has evolved, corporations are now accountable not only to their shareholders, customers and suppliers, but also to a broader group of stakeholders including, environmentalists, employees and local community organizations (Freeman, 1984).

Today, there are many different definitions of corporate sustainability (Roca and Searcy, 2012). For example, the International Institute for Sustainable Development (IISD) has defined it as "adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future" (IISD, 1992). Another definition is "company activities – voluntary by definition - demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders" (Marrewijk, 2003). Despite the fact that there is no "one" definition, each of the examples share a similar theme. The key is that business operations must meet not only today's needs, but future needs as well. This extends beyond the economic and financial aspect of business operations and the impacts to its shareholders to include the environmental and social impacts to stakeholders as a broader group. Collectively the three areas of economic, environmental and social performance are often referred to as the three pillars of the "triple bottom line" (Elkington, 1998).

2.2.2 Corporate Social Responsibility

Corporate social responsibility is closely associated with corporate sustainability. They have, however, been described as a "contradictions in terms" (Moon, 2007). Moon (2007) suggests two reasons for this, one being that a corporation by nature is not capable of enacting social responsibility, the second being that economic development and sustainability of the planet and of its resources cannot coexist (Moon, 2007). Further to this, there has been debate as to whether the ideas of corporate sustainability and corporate social responsibility are one and the same or, in fact, separate ideas (Moon, 2007). While some suggest that the two terms are separate ideas, others have considered them to be synonymous with each other (Marrewijk, 2003). In his work Marrewijk (2003), suggests keeping the two ideas separate. He describes Corporate Social Responsibility as looking at the union of people and the organization, including transparency and dialogue with stakeholders (Marrewijk, 2003). In other words, Corporate Social Responsibility is more about how transparent a corporation is with their stakeholders as well as how they interact with these stakeholders. Alternatively, Corporate Sustainability is more agency focused while providing more consideration to "value creation, environmental management, environmental friendly production systems, human capital management systems and so forth" (Marrewijk, 2003).

Corporate Social Responsibility, like Corporate Sustainability, does not have one widely accepted definition. One definition presented by Commission of the European Communities in their paper "Promoting a European Framework for Corporate Social Responsibility" is that Corporate Social Responsibility is "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (Commission of the European Communities, 2001). The Commission went on in their 2002 paper titled "Corporate Social Responsibility: A Business Contribution to Sustainable Development" to elaborate on the original definition. This addition considered that, while there are a number of approaches to Corporate Social Responsibility by corporations, there is agreement on the following key points (Commission of the European Communities, 2002). First, Corporate Social Responsibility is a behaviour extending beyond legal

requirements and taken on a voluntary basis as it is deemed a long term interest (Commission of the European Communities, 2002). Second, there is a definite link to Corporate Sustainability and third, that environmental, social and economic impacts must all be considered during operation (Commission of the European Communities, 2002). This is not something additional that a company takes on, but rather it is integrated into the way the corporation is run (Commission of the European Communities, 2002). The WBCSD is another organization that offers a definition for corporate social responsibility. In their 1999 report "Corporate Social Responsibility: Meeting Changing Expectations" they outline the definition as "the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large" (WBCSD, 1999). While the definitions vary slightly in their focus, what is consistent is that both definitions recognize the need for Corporate Social Responsibility to be rooted into the underlying strategy of a corporation versus being an add-on to. It must be an ongoing and living part of the corporation's planning and operational activities. Dahlsrud (2008) presents an analysis of 37 definitions of Corporate Social Responsibility. Dahlsrud (2008) concludes that while there are a number of definitions pertaining to Corporate Social Responsibility they all centre around 5 dimensions (1) The Stakeholder dimension, (2) The Social dimension, (3) The Economic dimension, (4) The Voluntariness dimension, and (5) The Environmental dimension.

2.3 Motivations for Corporate Sustainability

"The Social Responsibility of business is to increase its profits" is the title and main argument presented by Milton Friedman in a 1970 article published in the New York Times Magazine. Friedman suggests that any executive in a corporation is an employee of the business owners whose main interest is usually to make as much money as they possibly can while following legal and social norms (Friedman, 1970). In the 45 years since this article was published, there has been a major shift in thinking surrounding the topic of corporate sustainability and corporate social responsibility. Moon (2007) discusses the reason for this shift in thinking and attributes it to the changes and

evolution of four main drivers in the business world. The first, market drivers, includes consumer demands, employee preferences, investors and business suppliers. The second, social drivers, consider consumers, employees and investors. Moon (2007) expands on this driver to also include pressures from non-governmental organizations, media, social expectations or norms and finally, different business associations. The third driver, government, can be a driver via endorsements by political figures or "soft regulations", which in turn drive a shift to sustainable business (Moon, 2007). Finally, globalization is a major driver in that it has completely changed the way information is shared. Modern technology has taken away any barriers that previously prevented information sharing. This ability for stronger interaction across the country and the world has led to a need for businesses to consider their impacts far more today than in the past (Moon, 2007).

Vogel (2005) outlines that there are other reasons for a corporation to take on sustainability initiatives. For example, higher employee morale, or the idea that self-regulation may reduce the chances of government regulations coming into play (Vogel, 2005). Further, Vogel (2005) outlines that a corporation acting in a more responsible manner is likely related to the corporation recognizing this as a method of achieving a competitive advantage. But even today, with all the changes that have affected the business world, profitability is still identified as the most influential reasons why a corporation takes on sustainability initiatives (Vogel, 2005). These, and other, motivations for corporate sustainability are widely discussed in the literature. For example, Adams (2002) cites the most common motivations for reporting to be enhancing the corporation's image while also improving their credibility with stakeholders. Bebbington et al. (2009) describe motivations to be linked to a corporation's strategy for achieving differentiation, while Deegan (2007) explores the idea that reporting is undertaken to enhance a corporation's legitimacy with society.

In addition to the above there are several theories which examine and shed light on the root issues that may drive a corporation to take on sustainability initiatives. These

organizational theories include stakeholder theory, resource dependency theory and institutional theory.

2.3.1 Stakeholder Theory

By definition a stakeholder is "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984). Stakeholder theory argues that a corporation which considers and acts in the interest of all its stakeholders will perform better than a corporation that ignores certain stakeholder groups (Hatch and Cunliffe, 2013). Roca and Searcy (2012) highlight the link between stakeholder theory and its influence on corporate sustainability. Hatch and Cunliffe (2013) further argue that "one important implication of stakeholder theory is that ethics obligates organizations to consider their impact on the wider social and physical environments from which they take their resources" (Hatch and Cunliffe, 2013). Application of this theory to the oil and gas industry would imply that the corporations that are most likely to be successful in achieving their corporate goals take the needs of their stakeholders into account in their operations. Sustainability reporting is one way for corporations to demonstrate how they have both considered and responded to the needs of each of their stakeholders; both internal and external.

2.3.2 Resource Dependency Theory

Resource dependency theory is founded on the basis that all organizations require resources and that organizations rely on their environments for these resources (Pfeffer and Salancik, 1978). These required resources may be controlled by other organizations (Pfeffer and Salancik, 1978). Therefore, the survival and success of an organization is dependent upon its ability to obtain the resources they need while still managing the environment and its restriction (Pfeffer and Salancik 1978). Hatch and Cunliffe (2013) explain that dependence on resources is how the environment shows power over an organization and influences things like "competitive prices, desirable products and services, and efficient organizational structures and processes" (Hatch and Cunliffe, 2013). Within the oil and gas sector the environment asserts power over organization through the availability of a resource which, in the case of oil and gas is finite.

2.3.3 Institutional Theory

The underlying idea behind institutional theory is that along with materials, labour and knowledge that organizations need to operate; their success is also dependent on the acceptance of the societies where they operate (Hatch and Cunliffe, 2013). DiMaggio and Powell explain that "organizations compete not just for resources and customers, but for political power and institutional legitimacy, for social as well as economic fitness" (DiMaggio and Powell, 1983). DiMaggio and Powell (1983) go onto to outline three mechanisms which can trigger institutional isomorphic change as being (1) coercive – which responds to political pressures or legitimacy problems, (2) mimetic – which stems from response to uncertainty which can lead to imitation, and (3) normative which stems from professionalism and workers with similar backgrounds obtaining a certain response (DiMaggio and Powell, 1983). Hatch and Cunliffe (2013) further elaborate on this theory by summarizing the demands into two categories. The first being demands which are "technical, economic and physical" (Hatch and Cunliffe, 2013) in nature requiring organizations to produce goods and services which they can in turn trade on the market (Hatch and Cunliffe, 2013). The second set of demands are political, social and cultural demands as well as legal demands which need to be meet in order for the corporation to achieve the legitimacy they need to operate successfully (Hatch and Cunliffe, 2013).

Institutional theory applies to sustainability reporting in the oil and gas industry. Sustainability reporting in and of itself is not regulated, nor is it a mandatory act. However, as we will go onto see, organizations take this reporting on as it allows them a mechanism with which they are able to showcase their integrated social, economic and environmental performance, which addresses the broader concerns of the societies in which they operate.

2.4 Sustainable Development in the Extractive Sector

Cowell et al. (1999) outlines that one of the major issues surrounding the idea of sustainability is how this fits into and is managed by the primary extraction sector.

Reasons outlined for this include these resources being finite in nature and the potential access (or lack of access) to current and future generations, environmental impacts of both using and extracting these resources, the economic benefits, and the social impacts which can be either positive or negative (Cowell et al., 1999). This idea of unsustainability of finite resources can be dated back to Thomas Malthus in his 1798 paper "An Essay on the Principals of Population" in which he wrote: "Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio. A slight acquaintance with numbers will shew the immensity of the first power in comparison of the second" (Malthus, 1978). In other words, Malthus was arguing that if population continues to grow without limits humans will eventually deplete finite resources. Another classic study of this topic includes the popular study "Limits to Growth", conducted by an interdisciplinary team of professionals who looked at five areas (population, agricultural production, natural resources, industrial production and pollution) which can limit growth (Meadows et al., 1972). The study models different scenarios for growth to show the importance of finding an equilibrium state in which all factors are balanced (Meadows et al., 1972).

When looking to understand how the idea of "sustainability" or "sustainable development" fits into the extractive sector, Tilton (1996) more recently introduced two main paradigms. The first is the "The Fixed Stock Paradigm", in which Tilton outlines that scientists, ecologists and engineers are concerned with the finite nature of these resources and suggests that current and rising demands cannot be supported (Tilton, 1996). The second is the "Opportunity Cost Paradigm", in which economists argue that as cost of these resources go up due to depletion; other efforts will be undertaken in the way of new technology, market incentives, public policies or substitutions of resources (Tilton, 1996). As such, as resource availability changes so too will the operations of these corporations, potentially to the point of developing different resources to meet needs.

A 2005 report sponsored by the World Bank outlines some of the significant contributions that can be made by the extractive sector to the economic development of

a country particularly through allowing for foreign investment opportunities, development of the private sector, generating government revenues, foreign exchange earnings and employment opportunities (Liebenthal et al., 2005). However, despite these economic benefits, the growth of the extractive sector in many countries has been linked with social and environmental issues. For example, Auty (2004) outlines that resource abundant countries generally fall into a staples trap as policy in these country does not promote diversification; this in turn can lead to a long and challenging recovery period when the resource is no longer sustaining the economy (Auty, 2004).

Given that oil is a non-renewable resource and, that non-renewable resources are finite, it is arguable that there is no way to sustainably develop this resource as it will eventually be depleted as outlined in the "The Fixed Cost Paradigm" described by Tilton. Although the end result may seem dismal regardless of all efforts, this argument is not without another perspective and coming to that conclusion leaves out some very important pieces of the puzzle. The positive social and economic benefits that arise because of access to oil as a resource should be considered. For example, in Canada specifically the oil and gas industry plays a major role in funding health, pension and education programs through the taxes and royalties being paid to both provincial and federal governments (House of Commons Canada, 2014).

Furthermore, recall that as we advance technologically we often find new sources of energy, new exploration and extraction process, which can often be more efficient and, substitution of resources (Nooten, 2007; Tilton, 1996). For example, in the United States between 2000 and 2010 oil and gas companies invested around \$9 billion in renewable energy technologies (Switzer et al., 2013). This amounted to almost 20% of total investments in renewable energy for that time period (Switzer et al., 2013). Specifically when looking at Canada's oil sands industry this trend can already be seen with the creation of industry associations like the Canadian Oil Sands Innovation Alliance (COSIA) who are "focused on accelerating the pace of improvement in environmental performance in Canada's oil sands through collaborative action and innovation" (COSIA, 2016a). To date COSIA cites their member companies as having already

shared 814 different innovations and technologies which cost around \$1.3 billion to develop (COSIA, 2016a). COSIA has outlined 4 main focus areas being land, tailings, greenhouse gases and water (COSIA, 2016b). With the potential for improved efficiency and alternative technologies it is possible that the levels at which we currently consume oil and other non-renewable resources may not be the same levels that future generations will require. Hayward argues that a planner in the 1900's would not have secured oil for our generation but instead would have focused on securing horses for transportation needs, whale oil or fire wood for lighting and heating and rock salt to be used for refrigeration (Hayward, 2002).

2.5 Sustainability Reporting

Sustainability reporting has grown due to the recognition by companies that attention is required to reporting on environmental and social issues in combination with the financial aspects of their business (Daub, 2007). Corporations have experienced an increased level of scrutiny around the impacts of their operations, not only on the bottom line but on the environment and society as a whole (ACCA, 2004). This trend has, in turn, placed pressure on corporations to incorporate the idea of sustainability into their core strategies and to place a focus on becoming more transparent by providing publically available information to showcase how they are working towards achieving the overall goal of sustainability (ACCA, 2004).

2.5.1 Sustainability Reports

As previously outlined, the WBCSD (2002) defines sustainability reports "... as public reports by companies to provide internal and external stakeholders with a picture of corporate position and activities on economic, environmental and social dimensions. In short, such reports attempt to describe the company's contribution toward sustainable development." The Global Reporting Initiative similarly defines a sustainability report as being a "report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities. A sustainability report also presents the organization's values and governance model, and

demonstrates the link between its strategy and its commitment to a sustainable global economy" (GRI, 2016b).

At this time, there are few mandatory Sustainability Reporting requirements for companies in Canada. However, there has been some legislative activity that has encouraged reporting (CGA, 2005). For example, as of 1999 the Canadian Environmental Protection Act (CEPA) requires that companies disclose and provide information on certain emissions to the National Pollutant Release Inventory (NPRI) (CGA, 2005). The NPRI tracks over 300 substances and requires that owners or operators of facilities that meet specific NPRI requirements produce a NPRI report (Government of Canada, 2013). Further, while there are no set requirements for the Oil and Gas industry, in 2002 the "Public Accountability Statements Regulations" were created requiring that all banks, insurance companies and trust and loan companies produce a Public Accountability Statement annually (Government of Canada, 2016).

2.5.2 GRI Guidelines

While mandatory sustainability requirements are limited, there are a variety of initiatives that exist to help guide corporations in the reporting process. For example, the Global Reporting Initiative, which was founded in 1997, released their G4 guidelines for reporting in 2013 (GRI, 2016b). As another example, Stratos (2008) released a best practice guide on Canadian Corporate Sustainability Reporting; the report outlines best practices in sustainability reporting by 7 leading corporations. The World Business Council for Sustainable Development released "Sustainable Development Reporting: Striking the Balance" in 2002, which aims to demonstrate the value reporting can offer a corporation and provide guidance on how to report. Further to that, the International Petroleum Industry Environmental Conservation Association (IPICEA), in partnership with the American Petroleum Institute (API) and the International Association of Oil and Gas Producers (IOGP), released their third edition of voluntary reporting guidelines for the oil and gas industry in September of 2015 (IPIECA, 2016). That said, the GRI guidelines are by far the most widely used set of guidelines today.

The GRI framework quickly expanded from environmental reporting to include social and economic mechanisms as well; making it a rounded framework for sustainability reporting and not just environmental reporting (GRI, 2016b). Since its first release, there have been 3 updates. The most recent generation of guidelines, the G4 guidelines, was released in May 2013 (GRI, 2016b). The GRI also has a set of sector specific disclosure documents intended to help guide the unique needs of these identified sectors in the implementation of the G4 guidelines (GRI, 2016b). Sector specific supplements have been created for oil and gas, food processing, media, airport operators, electrical utilities, mining and metals, non-governmental organizations, financial services, event organizers and construction and real estate (GRI, 2016a). As of June 2014, over 5000 organizations had used the GRI guidelines and as of September, 2014, 20,000 reports had been registered in the GRI's Sustainability Disclosure database (GRI, 2014). According to a 2013 study completed by KPMG, 78% of global N100 companies sampled worldwide refer to the GRI guidelines in their corporate responsibility reports (KPMG, 2013). This is a 9% increase since 2011 (KPMG, 2013). The GRI guidelines aid an organization in developing their sustainability report by providing guidance on determining the aspects and boundaries that will be used during the creation of their report and by providing guidance on the information to be included in the report along with a set of indicators to be reported on by the corporation (GRI, 2013a). The G4 guidelines outline 91 indicators; 9 economic; 34 environmental; and 48 social indicators broken into 4 sub aspects, including human rights, product responsibility, society, and, finally, labor practices and decent work (GRI, 2013b).

Reporting frameworks such as the GRI are beneficial to sustainability reporting as they aid in creating consistency in the reports being produced across companies making them easier to compare and provide companies with the credibility of a recognized guideline (KPMG, 2013). The GRI guidelines have been regarded as a result of successful institutional entrepreneurship aligned with the idea of institutionalization described previously (Brown et al., 2009). The key to the success of the GRI has been attributed to two main areas. The first is the timing of its release when the idea of social, economic and environmental reporting was at a forefront as well as the role of different

players (Brown et al., 2009). The second is the balance found between different pieces of the initiative, including collective versus individual interests or inclusiveness versus broader consultation and building something new versus challenging the institutions already in place (Brown et al., 2009). However, despite the benefits and success of these guidelines, critics offer feedback on the lack of an "explicit definition or reference to a definition" (Moneva et al., 2006) on sustainable development and the lack of indicators that look at an integration of each of the pillars of the triple bottom line (Moneva et al., 2006). Gray and Milne (2002) suggest that currently there is no sustainability reporting being done anywhere at this time. They argue that the only way to potentially report on a corporation's sustainability would be through "...a complete and transparent statement about the extent to which the organisation had contributed to - or, more likely, diminished- the sustainability of the planet. For that to occur, however, as we have seen, we need to have a detailed and complex analysis of the organisation's interactions with ecological systems, resources, habitats, and societies, and interpret this in the light of all other organisations' past and present impacts on those same systems" (Gray and Milne, 2002). In other words, they are arguing that truly reporting on a corporation's sustainability is much too complex a process. At best, Gray and Milne (2002) suggest that reporting we see to today is not sustainability reporting but rather "triple bottom line reporting" (Gray and Milne, 2002). McElroy et al. (2008) take this notion one step further, suggesting that reporting guidelines such as the GRI and other reporting initiatives fail to actually aid corporations in measuring and reporting on the sustainability of their operations. They elaborate to explain that this is because guidelines, like the GRI refer to the term "sustainability context" (McElroy et al., 2008). The GRI defines "sustainability context" as "The underlying question of sustainability reporting is how an organization contributes, or aims to contribute in the future, to the improvement or deterioration of economic, environmental and social conditions, developments, and trends at the local, regional or global level. Reporting only on trends in individual performance (or the efficiency of the organization) fails to respond to this underlying question. Reports should therefore seek to present performance in relation to broader concepts of sustainability" (GRI, 2013b). McElroy et al. (2008) suggest that, while this definition exists, the GRI does not clearly articulate how a corporation can

include "sustainability context" in their reporting, and as a result this is often missing from sustainability reports (McElroy et al., 2008). Nonetheless, sustainability reporting is still a necessary first step towards providing stakeholders with information that will allow them to understand the impacts a corporation has on each of the identified pillars.

2.6 Sustainability Indicators

Sustainability indicators are tools that can be used by not only corporations but industry to help with not only assessing performance but also with planning and improving their operations (Al-Sharrah et al., 2010). Epstein (2008) outline that companies face challenges when it comes to demonstrating the link between a company's actions and their environmental, social and financial performance; indicators allow for this link to be quantified (Epstein, 2008).

2.6.1 Indicators

Key performance indicators help to measure and provide transparency around the progress a corporation is making when it comes to achieving the goals and milestones they have set out (PwC, 2007). Indicators aid in understanding by allowing for the simplification of complex information, like the environment and society (Turnhout et al., 2007). Measuring the corporation's performance against indicators allows for the communication of this information to both internal and external stakeholders; indicators can aid both employees and investors in making decisions about the corporations, as well as help communities and governments to better understand the impacts of the corporation (Keeble et al., 2003). According to PricewaterhouseCoopers (PwC), a challenge faced when developing performance indicators is ensuring that they allow for both decision makers and readers to effectively understand and assess if the corporation is meeting its outlined strategy (PwC, 2007). Further, it is important to note that performance indicators will vary by corporation depending on the industry they operate in and their strategy (PwC, 2007).

For a performance indicator to be classified as a sustainability indicator "they must convey information concerning any of the dimensions of sustainable development except purely financial ones; this would include indicators capturing sustainable

development, sustainability, sustainable production, environmental performance, social performance, and eco-efficiency" (Palme and Tillman, 2008) and they must also "be connected to a vision, goal, or target of sustainable development" (Palme and Tillman, 2008). It is important to note that sustainability indicators have been criticized for condensing large and complex processes into what may seem as a quite simple measure (Bell and Morse, 2008). Sustainability indicators looking at the environment, often try to simplify scientific and ecological knowledge, specifically related to the relationship of "cause and effect", which in and of itself is a highly complex system making it very difficult to measure within limited parameters (Thurnhout et al., 2007). Ironically, this very piece of criticism is also one of the benefits of any performance indicator as outlined above.

When developing sustainability indicators it is important for the corporation to understand the needs and requirements of both the internal and external stakeholders as their interests can vary (Keeble et al., 2003). The final set of indicators determined by a corporation should ensure they consider the needs of both groups (Keeble et al., 2003).

2.6.2 Corporate Sustainability Indicators

As outlined above, one of the biggest challenges faced by any corporation related to sustainability actions is "quantifying the link between corporate actions and environmental, social and financial performance" (Epstein, 2008). The implementation of indicators at the corporate level aids in drawing this line so that corporations have a better understanding of the overall impacts of their initiatives.

Some work has been done to establish indicator guidelines at the corporate level. For example, as previously noted the GRI G4 guidelines present 91 indicators to be used by corporations (GRI, 2013b). As outlined by Azapagic (2004), when considering the development of corporate sustainability indicators it is critical that industry specific sustainability issues are considered and that the indicators reflect those issues. The GRI has recognized this through the development of its sector specific supplements.

Many companies do still develop their own set of indicators. As noted by Searcy et al. (2008), in doing this, the first step would be to develop what priorities the corporation chooses to focus on as this will set the stage for the remaining pieces of development.

Other work worthy of consideration in the area of corporate sustainability indicators include a study aimed specifically at identifying the most common corporate sustainability indicators (Rahdari and Rostamy, 2015). To do this the study focused on existing frameworks, reporting guidelines, management systems and rating systems for corporate governance, corporate social responsibility and sustainability (Rahdari and Rostamy, 2015). Rahdari and Rostamy (2015) found that environmental indicators accounted for nearly half (48.63%) of the indicators. PwC (2009) sponsored a report examining corporate sustainability reporting in Canada through surveys. The intent was to identify issues and best practices related to voluntary reporting across a number of industries (PwC, 2009). One of their key calls to action was a need for industry specific standardized reporting (PwC, 2009). Further, work has been done on the process for developing corporate sustainability indicators, reports and frameworks. For example, Searcy et al. (2008) which looks at the process of identifying priority areas for action within a corporation and the process leading to the development of indicators; Searcy and Buslovich (2014) who interviewed experts from 35 Canadian corporations to understand how these corporations both develop and use sustainability reports; Azapagic (2004) which proposed a generic framework for sustainable development indicators to be used by mining and mineral corporations; and Adams and Frost (2008) who conducted interviews with 3 Australian and 4 British corporations to collect information which would allow them to better understand how corporations develop performance indicators and use these indicators in decision making. The study concluded that across the 7 corporations there were varied approaches to indicator selection, reporting and the use of indicators in decision making (Adams and Frost, 2008). This finding is consistent with the other studies noted.

Other areas of focus have been the specific indicators disclosed within sustainability reports. For example, Roca and Searcy (2012) completed a content analysis of 2008

sustainability reports produced by 94 Canadian corporations. In completing this content analysis, they examined both the specific indicators used in the reports along with the use of GRI indicators in these reports (Roca and Searcy, 2012). Gallego (2006) looked at 19 Spanish corporations spanning 4 different sectors who report environmental, social and economic information as per the GRI guidelines. The aim was to verify how the corporation used these GRI indicators and how this in turn can impact sustainable development (Gallego, 2006). They conclude that knowledge of the information provided by these reports through the indicators disclosed can impact sustainable development positively (Gallego, 2006). However, in order for this to happen, all firms in all sectors and countries must provide this type of information (Gallego, 2006).

2.6.3 The Role of Indicators

Indicators are critical tools used by corporations to measure success towards its outlined goals, further, indicators allow for a corporation to understand their current positon as it relates to these goals so that they can develop new strategies if required (Brockett and Rezaee, 2012). Daub (2007) suggest that performance indicators represent "the heart of a sustainability report", and places more emphasis on the inclusion of this quantitative information over qualitative information since indicators provide solid measureable information. PwC (2007) further outlines the importance of performance indicators and their link to the corporation's strategy and objectives, however, they outline that this quantitative and qualitative information must be presented together to ensure a complete understating of the information by the reader.

Keeble et al. (2003) address how sustainability indicators can be used at both the corporate and project level by examining 2 case studies. The first study aims to measure sustainability performance across a corporation (Keeble et al., 2003). The second study aims to measure project activities and their alignment with sustainable development principles (Keeble et al., 2003). They conclude with 3 main findings. First, that debate within an organization when developing indicators should be encouraged as it is part of the learning process (Keeble et al., 2003). Second, stakeholders external to the corporation should be involved in the process however, in the end it is critical that

those accountable within the organization understand how they can aid in reaching the desired results (Keeble et al., 2003). Finally, using frameworks and developed standards can be helpful however, the process of developing indicators by internal stakeholders helps to develop a feeling of ownership over the results (Keeble et al., 2003). In essence, indicators play a role within an organization far beyond acting solely as a communication tool, they help to establish accountability and develop a mindset. Bassen and Kovács (2008) suggest that the performance of a corporation extends beyond just the financials and that indicators addressing sustainability are critical for comprehensive firm evaluation by investors.

2.7 Reporting in the Oil and Gas Sector

Both the size and geopolitical stability of the oil sands in Alberta make them ideal for development (Poveda, 2015). Nonetheless, they are also the focus of much attention due to the potential social and environmental impacts which are currently receiving attention worldwide (Poveda, 2015). That said, the majority of major industry players have taken up the process of sustainability reporting; which, as previously discussed allows for transparency and communication by the industry with its stakeholders. As such, it is no surprise that there has been research completed looking at the oil and gas industry specifically as it relates to the context of sustainability and sustainability reporting both globally and in Canada.

At the global level, Schneider et al. (2013) looked at 10 oil and gas corporations to evaluate their progress towards sustainability of environment, health and safety (EHS) initiatives. To complete the study the EHS policies of each corporation were analyzed. This included mission and vision statements as they related to EHS, metrics reported, legal compliance and overall EHS initiatives (Schneider et al., 2013). The study concluded that while the industry has made progress toward sustainability, benchmarking, as it relates to the EHS categories examined, continues to be an issue due to inconsistencies in the reporting (Schneider et al., 2013). Another report by Asaolu et al. (2011) completed a content analysis of reports produced by 6 oil and gas corporations operating in Nigeria. Corporations were ranked against one another based on a rating system developed using the GRI and IPICEA guidance for voluntary reporting to determine the extent to which these corporations were reporting against international best practices (Asaolu et al., 2011). Sun (2011) completed a study examining the stock performance of sustainability leaders in the oil and gas industry as identified by the Dow Jones Sustainability Index. He concluded that sustainability leaders in this industry have a stock which outperforms those of lagging corporations, suggesting a positive reaction by investors to corporate sustainability (Sun, 2011).

As it relates to Alberta, Poveda (2015) looked at the information being reported by 6 oil sands operators/producers for the 4 most common environmental impacts associated with the industry (i.e. land use, greenhouse gas (ghg) emissions, tailings ponds and water use), outlined by the Canadian Association of Petroleum Producers (CAPP). The intent of the research was to give a broad understanding of the state of each of these areas based on the statistics provided by the individual corporations (Poveda, 2015). Poveda (2015) concluded that while regulatory requirements were being met, the lack of standardization across the 6 corporations made benchmarking on the 4 areas examined challenging. A thesis completed at Trent University in 2012 examined sustainability reports for 4 oil sands corporations with the aim of addressing the question "Should the energy industry operating in the oil sands follow and commit to a more normative approach of the natural-resource based view in their sustainable development strategies, and thereby become more responsible corporate stewards?" (Eve, 2012).

The report previously cited by Roca and Searcy (2012) examined indicators disclosed in sustainability reports from 94 Canadian corporations across a variety of industries. Roca and Searcy (2012) found that the oil and gas industry reported the largest number of different indicators in their reports, followed by the mining and transport industries. This same study also found that of the 13 oil and gas corporations included, 46% or 6 of them, highlighted GRI indicators in their reports (Roca and Searcy, 2012). As highlighted by Roca and Searcy (2012) these findings line up with Deegan and Gordon (1996) who also found there to be larger disclosures by firms who worked in environmentally high impact industries and suggested that these disclosures were used

to provide legitimacy of the corporations operations. Adams and Frost (2008) found there to be similarities on the issues receiving focus across corporations operating within the same industries and outlined that environmental issues were of strong focus by corporations operating in environmentally high impact industries. However, they did note that while environmental issues were of strong focus for these corporations, there were inconsistencies in the type and amount of specific information being provided, even amongst those operating in the same industry and country (Adams and Frost, 2008).

2.8 Conclusions

The literature review demonstrates that substantial work has been completed on understanding the idea of corporate sustainability and how sustainability reporting and sustainability indicators are used as tools by corporations to communicate and show their progress in achieving their overall corporate sustainability goals. The review also demonstrates that the GRI is the most widely used reporting guideline by corporations when preparing their reports. However, very little work has been done at the sector level, specifically within Alberta's oil and gas industry, to understand the consistency and comparability of reports being produced. This is an area which should be explored further in order to truly gauge the effectiveness of reports in achieving their overall goal of reporting on corporate sustainability. While the sharing of a corporation's environmental, social and economic performance is important in and of itself, it lacks any real usefulness in creating change and identifying leaders and laggards if it cannot be compared and benchmarked to that of its peers, and related to the broader sustainability context in which the firm operates.

2.9 Motivations for Research

The purpose of this literature review was to understand and document the available research in the areas of sustainability reporting, sustainability indicators and reporting within the Alberta oil sands industry in Canada. What this research has shown is that, while there is wide availability of research looking at each of these topics on their own, little information is available on the use of indicators within the Alberta oil sands industry
or the consistency and comparability of reporting and indicator use in this industry. In order for reporting and the use of indicators to drive the common goal of achieving sustainability, stakeholders need to be able to understand how each of these corporations measure up to one another. This is the gap this research seeks to address.

While standards, such as the GRI, do exist for corporations to use, there is no mandatory set of reporting guidelines or industry specific indicators. This leaves reporting and indicator development entirely up to the discretion of the specific corporation producing the report. The motivation for completing this research is, therefore to understand how the industry has progressed in this area by looking at the use of indicators across the industry and the consistency of both reporting and indicator use. It is suspected that there will be large variability in the information produced across the industry, making it difficult for stakeholders when reading these reports to understand the impacts of the industry and how these corporations measure up against one another.

2.10 Research Questions

This research intends to explore both the current state of sustainability reporting as well as the evolution of sustainability reporting within Canada's Oil and Gas industry.

2.10.1 Central Question

The central question for this research study is:

How consistently are corporations operating in the Canadian oil sands industry measuring and communicating their sustainability performance to stakeholders?

2.10.2 Sub Questions

The following sub questions have been developed to help answer the central question.

- 1. What indicators are currently being reported by the corporations operating in the Canadian oil sands industry?
- 2. How consistent is reporting and indicator use across corporations operating in the Canadian oil sands industry?
- 3. How has the use of indicators and the consistency of reporting across the industry evolved over time?

3 Methods

This research focused on a content analysis of the sustainability reports produced by 13 companies operating as producers in the Canadian oil sands. A qualitative analysis of reports produced by these companies in both 2010 and 2014 provided a database of indicators reported on by the industry for both time periods. Reviewing reports for both time periods also provided insight to the evolution of the industry in this area over time. An overview of the research approach is provided in Figure 1.



Figure 1: Research Approach

3.1 Content Analysis

Qualitative content analysis provided the basis for this research. For the purpose of this research the definition of content analysis offered by Krippendorff (2013) was used. Krippendorff (2013) states that content analysis is "a systematic reading of a body of texts, images, and symbolic matter" and defined as "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (Krippendorff, 2013). Krippendorff (2013) also describes qualitative content analysis specifically as being "interpretive" and outlines that this method of analysis involves the close reading of a small amount of text (Krippendorff, 2013).

Krippendorff (2013) outlines three points which may spark a researcher to take on a content analysis:

- 1) Text Driven Content Analysis this type of analysis stems from a researcher's interest in a certain set of texts (Krippendorff, 2013).
- Problem Driven Content Analysis this type of analysis stems from a researcher's interest in a certain question that they believe they may be able to answer by analyzing specific texts (Krippendorff, 2013).
- 3) Method-Driven Content Analysis stems from a researcher wanting to apply analytical practices to an area not yet explored using those specific practices which however, have been explored via other means (Krippendorff, 2013).

This research stemmed from a belief that there may be inconsistency in the information being provided in sustainability reports produced by oil and gas corporations operating in Canada's oil sands industry. This was based on the fact that the literature review conducted has shown inconsistencies in sustainability reporting to date. This is therefore, a problem driven content analysis. Krippendorff (2013) provides nine steps an analyst may take to achieve the inferences they set out for. An inference is defined as "the act or process of reaching a conclusion about something from known facts or evidence" (Merriam-Webster Dictionary, 2015). Table 1 shows the 9 steps outlined by Krippendorff (2013) and how they were addressed for this research.

Step:		Description:
1.	Formulating a Research Question	The research question set out to be addressed is: How consistently are corporations operating in the Canadian oil sands industry measuring and communicating their sustainability performance to stakeholders?
		Several sub questions were also outlined earlier.
2.	Ascertaining stable correlations	Sustainability Reports are becoming the commonly used method of communicating sustainability performance by corporations. It is believed that these reports can provide the necessary information to draw a conclusion on the effectiveness of the information being measured and communicated by the Canadian oil sands industry. As such, these reports will act as the focus texts for the content analysis.
3.	Locating relevant texts	As outlined above, Sustainability Reports produced by corporations will be the focus of the content analysis. These reports are publically available and were retrieved from the selected corporation's websites.
4.	Defining and identifying relevant units in texts	For the purpose of this study, the entire pdf of the Sustainability Reports were studied for each corporation. Indicators were extracted from tables, charts and performance scorecards/indicator summary sections or similar areas within the reports.
Step:		Description:
Step: 5.	Sampling the texts	Description: Sample texts were identified as sustainability reports produced by the 13 corporations who make up Canada's Oil Sands Innovation Alliance (COSIA). Further details are provided in section 3.3. Sample Selection.
Step: 5. 6.	Sampling the texts Developing coding categories and recording instructions	Description: Sample texts were identified as sustainability reports produced by the 13 corporations who make up Canada's Oil Sands Innovation Alliance (COSIA). Further details are provided in section 3.3. Sample Selection. Reports were read in full and indicators, as defined earlier were recorded as anything found in a chart, table or an Indicator Summary/Performance Scorecard section or similar.
Step: 5. 6. 7.	Sampling the texts Developing coding categories and recording instructions Selecting an analytical procedure	Description: Sample texts were identified as sustainability reports produced by the 13 corporations who make up Canada's Oil Sands Innovation Alliance (COSIA). Further details are provided in section 3.3. Sample Selection. Reports were read in full and indicators, as defined earlier were recorded as anything found in a chart, table or an Indicator Summary/Performance Scorecard section or similar. Spreadsheets were developed for each corporation for each time period. As indicators were identified they were recorded in the appropriate spreadsheet. These raw data spreadsheets can be found in Appendix 1 and 2 for 2010 and 2014, respectively. Further information on the analytical procedures can be found in section 3.4 Data Analysis.
Step: 5. 6. 7. 8.	Sampling the texts Developing coding categories and recording instructions Selecting an analytical procedure Adopting standards	Description: Sample texts were identified as sustainability reports produced by the 13 corporations who make up Canada's Oil Sands Innovation Alliance (COSIA). Further details are provided in section 3.3. Sample Selection. Reports were read in full and indicators, as defined earlier were recorded as anything found in a chart, table or an Indicator Summary/Performance Scorecard section or similar. Spreadsheets were developed for each corporation for each time period. As indicators were identified they were recorded in the appropriate spreadsheet. These raw data spreadsheets can be found in Appendix 1 and 2 for 2010 and 2014, respectively. Further information on the analytical procedures can be found in section 3.4 Data Analysis. In order to ensure that the same methods were employed for each report examination, a test for reliability was completed. Further information on this test can be found in section 3.2 Reliability.

 Table 1: 9 Steps for Content Analysis – Krippendorff (2013)

3.2 Reliability

In any form of research, showing reliability in the methods is critical to establishing confidence in the data (Krippendorff, 2013). When it comes to content analysis, Krippendorff (2013) outlines three types of reliability:

- Stability proving that the research methods employed will achieve the same results at different times (Krippendorff, 2013).
- (2) Replicability proving the extent research methods employed can return the same results regardless of the analyst and under different situations (Krippendorff, 2013).
- (3) Accuracy comparing the research methods employed to the results of other research methods designed and considered to be correct methods (Krippendorff, 2013).

For the purpose of this thesis, and based on the resources available, only stability was measured using a test-retest method as recommended by Krippendorff (2013). Two of the corporation's sustainability reports were analyzed in full and then re-analyzed using the exact same method one week later. The reports were Cenovus and Imperial Oil for the 2014 reporting period. The test-retest showed that the research methods employed yield the same results by the same analyst when completed one week apart. All indicators captured in the initial review were also captured in the retest. This confirmed that using charts, table, and indicator summary sheets to extract indicators was a effective method of data extraction.

3.3 Sample Selection

This study examined industry associations in order to determine the sample for analysis. This was a clear way of bounding the analysis. The Canadian Association of Petroleum Producers (CAPP) was the first association reviewed. It had 81 registered producer companies of oil and natural gas in Canada. However, the issue with using this association was that it does not isolate out oil sands producers. As such, the second industry association examined was Canada's Oil Sands Innovation Alliance (COSIA). COSIA's focus is on environmental improvement in the industry through collaboration and innovation; and is made up of 13 member companies who account for 90% of oil sands production in Canada (COSIA, 2016c). The 13 member companies outlined in Table 2, along with employee's counts for both time periods, formed the basis for this analysis. Employee counts were pulled from the associated reports or annual reports.

Table 2: Sample

	# of Employees 2010	# of Employees 2014
BP Canada	80,300	83,900
Canadian Natural Resources Limited	4,100	6,600
Cenovus Energy Inc.	3,070	5,323
ConocoPhillips Canada Resources Corp.	31,000	2,176
Devon Canada Corporation	N/A	5,400
Imperial Oil	5,015	5,300
Nexen	4,133	2,000
Shell Canada Energy	101,000	92,000
Statoil Canada Ltd.	N/A	23,000
Suncor Energy Inc.	12,710	14.182
Syncrude Canada Ltd.	5,580	5,188
Total EandP Canada Ltd.	97,000	98,799
Teck Resources Limited	8,500	10,900

3.4 Data Collection and Analysis

The content analysis for this study looked at the entirety of the reports published by each corporation for two time periods, 2010 and 2014. While corporations do use any reporting standards like the GRI, not all corporations apply the standards in the exact same way, as such, all indicators reported were included in this study. Only reports published in a downloadable pdf format were included. In some cases, corporations produced a "summary report" which is available for download while remaining aspects of the report could be found on their website. In those cases, this was noted and only the summary report was examined. While these reports were titled summary, they were the downloadable report available for public use. Table 3 summarizes how the research questions were addressed.

Research Questions	Method Used	Scope	Output
What indicators are currently being reported by these corporations?	Qualitative Analysis	Entire report	Indicator database
How consistent is reporting and indicator use across companies operating in the Canadian oil sands industry?	Qualitative Analysis	Entire report	Worksheet
How has the use of indicators and the consistency of reporting across the industry evolved over time?	Qualitative Analysis	Entire report	Indicator Database/Worksheet ***Work completed to answer question one and two outlined above was completed on the reports for both 2010 and 2014 to form the basis for comparison

Table 3: Research Question Method, Scope and Output

The following assumptions were used to answer and address each of the research sub questions:

(1) What indicators are currently being reported by these corporations?

Reports were reviewed in their entirety for "indicators". Indicators are defined as "A set of quantifiable measures that a company or industry uses to gauge or compare performance in terms of meeting their strategic and operational goal" (Investopedia, 2016) and were extracted from tables and charts throughout the report, along with indicator summary/performance summary sections or similar areas of the report. Each time an indicator was identified, the name of the indicator was placed in a company specific spreadsheet. The measurement unit/area, page number and section title were also recorded. An example is provided in Figure 2.

#		CONTENT ANALYSIS - Nexen				
		INDICATOR	MEASUREMENT UNITS/AREA	PG #	SECTION TITLE	
	1	Capital Expenditure	CAD \$ Billions	4	Our Canadian Operations: Driving Economic Growth	

Figure 2: Indicator Recording Sheet

Two spreadsheets were maintained; one for each reporting period. Each spreadsheet had company specific tabs. The first step was to review the reports for all corporations during each time period. Once this was complete, spreadsheets were compiled and the indicator database was developed. This was done by manually cross checking each

corporation's indicator spreadsheet and developing a master spreadsheet for each time period.

To streamline data and avoid double counting when identifying indicators, the indicator at a high level was captured and in the "measurement unit/area" section of the spreadsheet any business areas or geographies were noted. For example, if a company reported "Indirect GHG/CO2_e Emissions" and reported it for 3 different business areas the business areas were noted in the "measurement unit/area" section. To ensure that this information was not omitted, both a "category" and a "subcategory" were identified during the creation of the master spreadsheet. Figure 3 shows the use of the indicator "Gas Flaring" as an example. This indicator was determined to be reported by 7 corporations in 2014. Of those 7 corporations, 4 reported the indicator as a total number, while the other 3 reported the indicator as a business operation/area specific number. Nonetheless, the indicator was determined at a high level to be "Gas Flaring" regardless of how the company chose to report. The subcategories were then determined to be "Total" and "By Operation/Business Area". If a company reported on a specific indicator in more than 1 sub-category group it was recorded. However, when summing up the total number of reports including that indicator it was only counted once (to eliminate double counting).

Appendix 3 and 4 outline all indicators and sub categories of indicators for 2010 and 2014 respectively. They also specifically identify which corporations reported each indicator and by what specific sub category they reported.

Indicator	Total Reports		Sub- Category	Sub- Category Total	
			Total	4	
Gas Flaring	7	54%	By Operation / Business	3	
			Area		

Figure 3: Indicator and Sub Category

(2) How consistent is reporting and indicator use across companies operating in the Canadian oil sands industry?

In order to analyze consistency in reporting across the industry above and beyond the actual indicators themselves relevant themes associated with each pillar of sustainability were outlined. Themes were not predetermined. Instead to eliminate bias, themes emerged through an inductive analysis during indicator retrieval. This led to the identification of 12 themes for the 2010 reports and 13 themes for the 2014 reports. Table 3 outlines each of the 13 themes and their associated sustainability pillar. Note that during the 2010 reporting period the Aboriginal theme was absent. Further details including definition for each theme are outlined in the analysis and discussion in section 4.

Table 4: Themes and Pillars

Environmental	Social	Economic
Emissions/Air	Communities/Charitable Involvement	Financial
Energy	Business Integrity	Operations
Water	Employees	-
Land	Aboriginals	
Waste	Health and Safety	
Environmental Violations/Other		

Once indicator extraction was completed themes were determined by examining indicators for similarities. Once a list of themes was determined an additional column was added to each corporation's recording worksheet to identify the theme of each indicator. See Figure 4.

 	CONTENT ANALYSIS - Nexen					
#	INDICATOR	MEASUREMENT UNITS/AREA	PG #	SECTION TITLE	LOCATION	IHEIVIE
1	Capital Expenditure	CAD \$ Billions	4	Our Canadian Operations: Driving Economic Growth	Chart	Financial

Figure 4: Indicator Recording Sheet – Theme Identification

(3) How has the use of indicators and the consistency of reporting across the industry evolved over time?

The analysis methods described above for questions one and two were replicated for reports produced by each reporting corporation in both 2010 and 2014. This information provided the basis for analysis and comparison of reports over time. Indicators recorded in the indicator databases for both 2010 and 2014 for all corporations were compared and analyzed. Section 4 outlines the result and analysis for both time periods. An analysis of reports at a high level was completed followed by an analysis of indicators on the individual indicator level, the theme level and finally the pillar level.

4 Results and Analysis

4.1 Sample

As outlined previously, this analysis was made up of 13 member companies of COSIA who account for 90% of oil sands production (COSIA, 2016c). Table 5 outlines each corporation along with the corporation's international headquarters and the availability of a report for each time period.

The reports reviewed are reports published in 2010 reviewing 2009 data and reports published in 2014 reviewing 2013 data. For 2010, reports were available for 11 out of the 13 corporations; 2 of the 11 corporations did not have specific reports reviewing 2009 data. For those corporations, ConocoPhillips and Syncrude Energy, the 2008 and 2008/2009 combination reports were used, respectively. For 2014, reports were available for all 13 corporations. However, note that 2 of the reports, ConocoPhillips and Devon Corporation, were combinations of 2013/2014 data.

Of the 13 corporations, 8 have their corporate headquarters in Alberta, Canada; 2 are headquartered in the United States of America; 1 in the United Kingdom; 1 in Norway and 1 in France.

	Corporation Headquarters	2010 Report Availability	2014 Report Availability				
BP Canada	St. James, London, UK	2009	2013				
Canadian Natural Resources Limited	Calgary, Alberta, CA	2009	2013				
Cenovus Energy Inc.	Calgary, Alberta, CA	2009	2013				
ConocoPhillips Canada Resources Corp.	Houston, Texas, USA	2008	2013/2014				
Devon Canada Corporation	Oklahoma City, Oklahoma, USA	N/A	2013/2014				
Imperial Oil	Calgary, Alberta, CA	2009	2013				
Nexen	Calgary, Alberta, CA	2009	2013				
Shell Canada Energy	Calgary, Alberta, CA	2009	2013				
Statoil Canada Ltd.	Stavanger, Norway	N/A	2013				
Suncor Energy Inc.	Calgary, Alberta, CA	2009	2013				
	Fort McMurray, Alberta,	2008/2009	2013				
Syncrude Canada Ltd.	CA	Combined					
Total EandP Canada Ltd.	Courbevoie, France	2009	2013				
Teck Resources Limited	Vancouver, British Columbia, CA	2009	2013				

Table 5: Sample Informatio

4.1.1 Report Presence and Type

The study consisted of a content analysis of reports published by oil sand production corporations related to their sustainability performance in an attempt to understand the availability of industry specific information. As such, a variety of different reports across corporations were identified. When available, specific oil sands reports were used. However, if this type of report was not available the corporation's general sustainability report was used. During the analysis a number of different naming conventions were recognized. Figure 5 and 6 show the naming conventions of reports produced by companies in 2010 and 2014, respectively.

The data shows that over the 4 year time period, the number of companies producing some form of a standalone Sustainability report or similar increased from 11 companies out of 13 to 13 out of 13. However, the naming conventions used and the subsequent information included continue to vary. The largest number of the reports produced, 55% in 2010 and 38% in 2014, used the term "Sustainable" or "Sustainability" report or review. In 2010, the remaining 45% of reports produced spanned varying naming conventions, while in 2014 23% of the remaining reports were titled as "Corporate Responsibility" or "Corporate Social Responsibility". Finally, in 2010 only 1 company was producing a specific report covering oil sands, while in 2014 this number increased to 2 companies or 15% of the sample.

While reports had different naming conventions, the general subjects and scope of the reports was fairly consistent at a top level. However, the depth in which they covered oil sand specific information was quite variable and appeared to be dependent on the presence of their company in other global markets and types of operations. Further, the varying report names may be reflective of differing interpretations of sustainability by each of the corporations operating in Canada's oil sands industry.



Figure 5: Breakdown of Reports by Type – 2010



Figure 6: Breakdown of Reports by Type – 2014

4.1.2 Report Lengths

For each report type, and the reports as a whole, the mean, median, minimum and maximum lengths were calculated and documented in Table 6 and Table 7 for 2010 and 2014, respectively. Note that the length of reports was determined by the number of pages end to end of the downloaded pdf document.

The average length of reports increased over the 4 year period from 45 pages in 2010 to 56 pages in 2014. Outliers to this data include a 2 page report by Cenovus in 2010. This report highlighted only some basic performance and had 0 indicators. On the longer side of things, was the report produced by Teck. This report sat at 118 pages in 2010 and increased to 134 pages in 2014. Teck is a global company with operations and projects spanning North and South America and corporate offices on 5 continents; this report covers the entirety of their operations. In terms of reports falling within the *"Sustainability/Sustainable Development Report/Review"* category, the average length

of report followed the same trend as all reports, increasing from a mean of 59 pages in 2010 to 72 pages in 2014. If Teck is removed from the data as an outlier, the average page length of reports in this category sits at 48 and 57 pages in 2010 and 2014, respectively. This is much closer to the average for all reports during that time period. Reports falling within the *"Corporate Responsibility/Corporate Social Responsibility Report"* category were on average 57 pages long, with the shortest being 52 pages and the longest being 64 pages in 2014. Due to 2010 having only 1 report in this category, year over year comparisons do not lead to any tangible conclusions.

	Total # of Reports	Mean Length	Median Value	Minimum Length	Maximum Length
Sustainability/Sustainable	6	59	47	26	118
Development Report/Review					
Corporate Citizenship	1	16	16	16	16
Report					
Oil Sand Performance	1	13	13	13	13
Report					
Corporate Responsibility/	1	2	2	2	2
Corporate Social					
Responsibility Report					
Environment and Society	1	80	80	80	80
Report					
Stewardship Report to	1	28	28	28	28
Stakeholders					
All Reports	11	45	36	2	118

Table 6: Report Length by Type – 2010

Table 7: Report Length by Type – 2014

	Total # of	Mean Length	Median Value	Minimum Length	Maximum Length
	Reports				
Sustainability/Sustainable	5	72	52	38	134
Development Report/Review					
Corporate Citizenship	1	12	12	12	12
Report					
Oil Sand Performance	2	67	67	58	76
Report					
Corporate Responsibility/	3	57	54	52	64
Corporate Social					
Responsibility Report					
Stewardship Report to	1	36	36	36	36
Stakeholders					
Responsible Energy	1	12	12	12	12
Development					
All Reports	13	56	52	12	134

4.2 Indicator Presentation

The data contained in this section shows at a high level, the way in which these corporations are presenting indicator data in their reports and how this has changed over time.

4.2.1 Indicator Summaries

For each report available in each time period the report was manually searched to check for the presence of an indicator summary or table of indicators. This would be any section in the report in which the company specifically summarizes their list of indicators. Figure 7 shows the number of reports with this type of summary or table. It shows that in 2010 only 5 of the 11 companies, or 45%, of the companies reporting summarised their indicators. This number increase to 7 out of 13, or 54%, just over half summarising their indicators in 2014. The total number of companies using this type of summary increased over the 4 year period from 5 to 7. However, it is noteworthy, that 1 of the 5 companies with a summary sheet in 2010 no longer included this summary in their 2014 report. As such, over the 4 year period, 3 net new companies began including this type of summary in their report.



Figure 7: Presence of an Indicator Summary

Upon closer review of the indicator summaries, it was noted that naming varied by report. Naming conventions in 2010 were "BP in Figures", "Statistics", "Business

Highlight Data and Citizenship Performance Data", "2009 Performance Indicators" and "Performance Overview". In 2014 naming conventions included "BP in Figures", "Performance Scorecard", "Performance Data", "Performance Report Data", "Our Performance", "Key Performance Indicators" and "Performance Overview Table". Nonetheless they all followed a similar pattern of highlighting the indicator name and measurement down the left side of the page and included the data by year across the remaining columns.

Since a large number of reports did not include this type of indicator summary for both time periods, reports were searched in their entirety for any additional tables or charts that highlighted performance data. This allowed for a comprehensive list of indicators to be developed taking into account that each of the companies chose different methods of presenting their data. Figure 8 shows the breakdown of where indicators were found (Summary Sheet, Table or Chart) in reports by year.



Figure 8: Breakdown of Indicators by Presentation

In both timeframes it is evident that the majority of indicators identified were found in a summary sheet. In 2010, tables made up the second most common area to find indicators. In 2014 this switched to charts.

4.3 Database of Indicators

The first research question focused on determining what indicators the industry is currently reporting on. To answer this question reports for each time period were manually searched in full to identify and compile a database of both high level indicators and associated sub-categories of indicators. These can be found in Appendix 3 and 4 for 2010 and 2014, respectively.

4.3.1 2010 Reports

For the 2010 time period, the 10 companies analyzed resulted in a total of 453 indicators being reported. This is on average 45 indicators per report. Cenovus was excluded from this part of the study as their report did not actually report on any indicators, and as stated above, amounted to a 2 page fact sheet. As such 2010 numbers are based on 10 reporting corporations. The indicators were cross referenced and compared to identify overlap in the indicators and sub-categories of indicators being used by multiple corporations. This comparison lead to the identification of 272 unique high level indicators being reported on across the industry. Of the 272 indicators, 221 or 81% of the indicators were only reported by 1 corporation. The remaining 51 indicators, or 19%, were reported on by at least 2 corporations. Of the 51 indicators that were reported by 2 or more corporations only 9 indicators, or 3% of the total, were reported on by more than half of the corporations.

Table 8 summarizes all of the indicators which were reported on by 2 or more corporations for the 2010 reports. A complete list of all indicators can be found in Appendix 3. Note that multiple indicators were addressing essentially the same core issue in many cases, for example, ghg emissions.

Indicator	Total Reports
	(out of 10)
Recordable Injury Frequency/Rate	8
Fatalities	6
GHG/CO2 _e Emissions	6
Employees - By Minority Group	5
Investments to the Community	5
Lost Time Injury Frequency/Rate	5
NO _x Emissions	5
Total Workforce	5
Women by Job Type	5
Direct GHG/CO2 _e Emissions	4
Dividends	4
Energy Use	4
Indirect GHG/CO2 _e Emissions	4
Land Disturbed	4
SO ₂ Emissions	4
Attrition	3
Employee Benefits (i.e. Salaries/Bonuses/Short-Term Benefits)	3
Gas Flaring	3
GHG/CO2e Emissions Intensity	3
Taxes	3
Volatile Organic Compounds (VOCs) - Emissions	3
Capital Expenditures	2
Days Away from Work Cases	2
Direct GHG/CO2 _e Emissions Intensity	2
Economic Value Distributed	2
Economic Value Retained	2
Employees - Age Bracket	2
Employees by Job Type	2
Employees Covered by Collective Bargaining Agreements	2
Environmental Expenditures	2
Environmental fines and penalties	2
GHG Emissions (%)	2
Hours Worked	2
Injury Severity Rate	2
Land Reclaimed	2
Lost time injuries	2
New Employees	2
Oil Spills Volume	2
Operating Costs	2
Payments for Goods and Services	2
Payments to Governments	2
Permanent reclamation	2

Table 8: 2010 Indicators Reported on by 2 or More Corporations

Indicator	Total Reports (out of 10)
Recordable Injuries	2
Return on Average Capital Employed	2
Revenues	2
Royalties	2
Temporary reclamation	2
Total Refinery Throughputs	2
United Way Contributions	2
Water Consumption/Use	2
Water Diverted/Returned	2

Syncrude Canada Ltd. Reported the most number of indicators, totaling 125. The report with the least number of reported indicators, 13, was produced by Nexen. Table 9 shows the number of indicators by report.

Table 9: 2	010 Number	of Indicators	by Report
------------	------------	---------------	-----------

Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
13	27	52	14	15	18	41	125	86	62

4.3.2 2014 Reports

For the 2014 time period, the 13 companies analyzed resulted in a total of 528 indicators being reported. This is on average 41 indicators per report. These indicators were cross referenced and compared to identify overlap in the indicators and subcategories of indicators being used by multiple corporations. This comparison lead to the identification of 272 unique high level indicators being reported on across the industry. Of the 272 indicators 199, or 73% of the indicators, were reported by 1 corporation. The remaining 73 indicators, or 27%, were reported on by more than one corporation. Of the 73 indicators that were reported by 2 or more corporations, only 5 indicators, or 2% of the total, were reported on by more than half of the corporations.

Table 10 summarizes all of the indicators which were reported on by 2 or more corporations for the 2014 reports. A complete list of all indicators can be found in

Appendix 4. Again, note that many of the indicators were used to measure essentially the same core issue in many cases, such as for ghg emissions once more.

Indicator	Total Reports (out of 13)
Recordable Injury Frequency/Rate	11
Lost Time Injury Frequency/Rate	9
GHG/CO2 _e Emissions	8
Gas Flaring	7
Total Workforce	7
NO _x Emissions	6
Direct GHG/CO2 _e Emissions	5
Employee Benefits (i.e. Salaries/Bonuses/Short-Term Benefits)	5
Fatalities	5
Fresh water Use/Consumption	5
Investments to the Community	5
SO ₂ Emissions	5
Aboriginal Business Spending	4
Attrition	4
Capital Expenditures	4
Dividends	4
Energy Use	4
Fresh Water Use Intensity	4
GHG/CO2e Emissions Intensity	4
Indirect GHG/CO2 _e Emissions	4
Reportable Volume Spilled	4
Direct GHG/CO2 _e Emissions Intensity	3
Electricity Consumption	3
Footprint	3
Land Disturbed	3
Lost time Injuries	3
Recordable Injuries	3
Revenues	3
Taxes	3
Women by Job Type	3
Volatile Organic Compounds (VOCs) - Emissions	3
Bitumen Produced	2
Direct Carbon Dioxide CO ₂	2
Economic Value Distributed	2
Economic Value Retained	2
Employees - Age Braket	2
Employees - By Minority Group	2
Employees - By Job Type	2
Energy Consumption by Fuel	2

Table 10: 2014 Indicators Reported on by 2 or More Corporations

	Total
Indicator	Reports
	(out of 13)
Energy Intensity	2
Environmental Expenditures	2
Environmental Fines and Penalties	2
Environmental Regulatory/ Compliance Incidents	2
Exposure Hours	2
Fines Capture	2
Fresh Water Withdrawal	2
Gas Venting	2
GHG Emissions by Type	2
Hazardous Waste	2
Hours Worked	2
Interest Expense	2
Injury Severity Rate	2
Land Reclaimed	2
New Employees	2
NO _x Emissions Intensity	2
Non-Hazardous Waste - On-Site Disposal	2
Oil Spills - Volume (>= one barrel)	2
Oil Spills (>= one barrel)	2
On-Site Workforce	2
Operating Costs	2
Payments for Goods and Services	2
Permanent reclamation	2
PM10 – Particulate matter <= 10 microns	2
PM2.5 – Particulate matter <= 2.5 microns	2
Reportable Spills	2
Research and Development Investment	2
Royalties	2
Saline Water Use/Consumption	2
SO ₂ Emissions Intensity	2
SO _x Emissions	2
Temporary reclamation	2
Total Royalties and Income Taxes	2
Vehicle Incidents	2

For 2014, Syncrude Canada Ltd. once again reported the most number of indicators, 145. The report with the least number of reported indicators, 8, was produced by Devon Canada Corporation, which had not produced a report for the 2010 reporting period. Table 11 shows the number of indicators by report.

Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Syncrude	Total	Teck
53	12	33	47	13	31	20	48	8	20	145	12	86

Table 11: 2014 Number of Indicators by Report

4.3.3 Database of Indicators - Year over Year Comparison

The purpose of this section is to look at a year over year comparison of the indicators reported to see how these have changed over time. Table 12 shows the indicators reported on by 2 or more corporations during both reporting periods. Recall, that in 2010 51 indicators had been reported by 2 or more corporations, and in 2014, this number increased to 73 indicators being reported on by 2 or more corporations. This shows a positive trend in the industry towards consistency of indicators being reported in the industry.

After cross-referencing, it was evident that there were 41 indicators which were reported by 2 or more corporations in both time periods. In other words, of the 51 indicators reported on by more than 1 corporation in 2010 only 41 were also reported on by more than 1 corporation in 2014. Of the remaining 10 indicators, 6 were reported by 1 corporation in 2014 and 4 were not reported at all in 2014. Also noteworthy, is that in 2014 73 indicators were reported by 2 or more corporations, and as we know 41 of those indicators were also reported on by more than one corporation in 2010. Of the remaining 32 indicators, 18 had been reported on by 1 corporation in 2010, and 14 were new indicators in 2014. Seeing as these net new indicators were all reported on by at least 2 corporations, this could indicate some degree of alignment across the industry for emerging areas requiring reporting attention.

 Table 12: Indicators Reported by 2 or more corporations for both Reporting

 Periods

	20	10	2014		
Indicator	Total Reports	Total Reports (%)	Total Reports	Total Reports (%)	
Recordable Injury Frequency/Rate	8	80%	11	85%	
GHG/CO2e Emissions	6	60%	8	62%	
Fatalities	6	60%	5	38%	
Lost Time Injury Frequency/Rate	5	50%	9	69%	
Total Workforce	5	50%	7	54%	
NOX Emissions	5	50%	6	46%	
Investments to the Community	5	50%	5	38%	
Women by Job Type	5	50%	3	23%	
Employees - By Minority Group	5	50%	2	15%	
SO2 Emissions	4	40%	5	38%	
Direct GHG/CO2e Emissions	4	40%	4	31%	
Dividends	4	40%	4	31%	
Energy Use	4	40%	4	31%	
Indirect GHG/CO2e Emissions	4	40%	4	31%	
Land Disturbed	4	40%	3	23%	
Gas Flaring	3	30%	7	54%	
Employee Benefits (i.e. Salaries/Bonuses/Short-Term Benefits)	3	30%	5	38%	
Attrition	3	30%	4	31%	
GHG/CO2e Emissions Intensity	3	30%	4	31%	
Taxes	3	30%	3	23%	
Volatile Organic Compounds (VOCs) – Emissions	3	30%	3	23%	
Capital Expenditures	2	20%	4	31%	
Direct GHG/CO2e Emissions Intensity	2	20%	4	31%	
Lost time injuries	2	20%	3	23%	
Recordable Injuries	2	20%	3	23%	
Economic Value Distributed	2	20%	2	15%	
Economic Value Retained	2	20%	2	15%	
Employees - Age Bracket	2	20%	2	15%	
Employees by Job Type	2	20%	2	15%	
Environmental Expenditures	2	20%	2	15%	
Environmental fines and penalties	2	20%	2	15%	
Hours Worked	2	20%	2	15%	
Injury Severity Rate	2	20%	2	15%	
Land Reclaimed	2	20%	2	15%	
New Employees	2	20%	2	15%	

	20	10	2014			
Indicator	Total Reports	Total Reports (%)	Total Reports	Total Reports (%)		
Operating Costs	2	20%	2	15%		
Payments for Goods and Services	2	20%	2	15%		
Permanent reclamation	2	20%	2	15%		
Revenues	2	20%	3	23%		
Royalties	2	20%	2	15%		
Temporary reclamation	2	20%	2	15%		

4.4 Indicators by Theme

This section examines how indicators span major themes in the oil sand industry. All of the indicators were divided into theme groups and then each theme group was associated with one of the pillars of sustainability. As outlined in the methods, theme groups were determined once indicator extraction was completed by examining indicators for similarities. Once the list of themes was determined, indicators were grouped accordingly. From reviewing the reports, 12 themes emerged for the 2010 reporting period and 13 themes emerged for the 2014 reporting period. All indicators fit into 1 of these themes. Table 13 outlines a description of each of the themes.

Theme:	Description:
Emissions/Air	Indicators on emissions to air. This can be
	emissions by different types or air exceedances. It
	also includes carbon credits or offsets.
Energy	Indicators on energy usage, energy costs, sources
	of energy or energy generation.
Water	Indicators relating to water usage. For example,
	quality, type or treatment, recycled water and water
	use or outputs to water.
Land	Indicators relating to spills and non-compliance
	issues. Anything related to land disturbances,
	rock
Waste	Indicators relating to waste production treatment or
	waste types.
Environmental Violations/Other	Indicators relating to number of incidents or fines
	and penalties paid out for environmental
	exceedances, noncompliance or environmental
	accidents.
Communities/Charitable Involvement	Indicators related to community, charitable or
	educational investments. This includes time
	investments, programs or initiatives the corporation
	is involved with and monetary investments.
Business Integrity	Indicators related to ethics or integrity committees
Freedom	or complaints as well as programs or hotlines.
Employees	indicators related to total employees or employee
	anversity. This includes employees by job types,
Aboriginals	Indicators directed specifically at spending or
	involvement with aboriginal communities. While this
	could be grouped into communities and charitable
	involvement these are separated due to the
	emphasis on this theme specifically for the 2014
	reporting period.
Health and Safety	Indicators relating to health and safety initiatives
	and performance. For example, indicators related
	to wellness programs or injury frequency.
Financial	Indicators relating to expenses of a company.
	Examples include payment of taxes and royalties or
	snarenoider payments. This can include salaries,
Operations	Indicators related to the operations of a company
	including total production, exploration, offices or
	procurement of goods and services
	procurement of goods and services.

Table 13: Themes and Descriptions

4.4.1 2010 Reports

For the 2010 reporting period only 12 of the 13 themes were present. The aboriginal theme group was not present. Table 14 shows a complete breakdown of indicator counts by theme and by company.

THEME	# of Reporting Corporations	TOTAL by Theme	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conco Phillips	BP	Syncrude	Total	Teck
Emissions/Air	10	82	2	9	10	6	3	4	6	16	12	14
Energy	7	15	0	0	2	1	0	1	1	4	2	4
Water	7	26	1	0	1	2	4	0	0	8	6	4
Land	8	38	0	8	2	2	8	0	3	4	3	8
Waste	6	19	0	1	1	0	0	1	0	7	3	6
Environmental Violations/Other	6	11	1	0	2	0	0	0	1	3	1	3
Communities/Charitable Involvement	6	16	1	0	3	0	0	0	2	4	5	1
Business Integrity	4	8	2	0	0	0	0	0	3	0	2	1
Employees	8	95	2	1	7	0	0	10	9	33	26	7
Aboriginals	0	0	0	0	0	0	0	0	0	0	0	0
Health & Safety	9	61	1	4	6	2	0	2	6	26	9	5
Financial	6	58	3	0	14	0	0	0	4	17	11	9
Operations	6	24	0	4	4	1	0	0	6	3	6	0

 Table 14: Indicators by theme for 2010 Reporting Corporations

For the 2010 reporting time period the most common themes to emerge amongst the indicators were (1) Employees, (2) Emissions/Air, and (3) Health and Safety. Fifty three percent of the indicators reported in 2010 fell into one of these three categories. The only theme for which all 10 companies reported on was the "Emissions/Air" theme. Even though "Employees" emerged as the top theme for number of reported indicators, only 8 out of the 10 reporting companies reported on an indicator in this theme. Both Suncor Energy and Shell Canada did not report on an indicator in this theme. "Health and Safety", which emerged as the third most common theme, only had 9 of the 10 reporting companies. Shell Canada also did not report on an indicator falling into this theme.

While the three themes identified above had the most number of indicators reported, it is important to note that this does not necessarily mean that all companies are aligned on reporting themes. When looking at the number of companies reporting on a specific theme, the top three themes were (1) Emissions/Air, which has all 10 corporations reporting on this theme, and (2) Land, Waste and Employees which all had 8 corporations reporting.

As an example of how a theme was comprised of individual indicators consider the "Emissions/Air" theme. For the "Emissions/Air" the 82 identified indicators fit into 44 high level indicators with a variety of sub-categories. Only 10, 23%, of these high level indicators were reported on by 2 or more corporations. Table 15 outlines these 10 high level indicators and sub-categories. The remaining 34 high level indicators, were only reported on by 1 corporation, and can be found in Appendix 3 along with the identified sub-categories.

Indicator	Total F	Reports	Sub- Category	Sub- Category Total
GHG/CO3 Emissions	6	60%	Total	6
	0	00%	By Operation / Business Area	2
NO ₄ Emissions	5	50%	Total	3
	,	50%	By Operation / Business Area	3
Direct GHG/CO2 Emissions	л	10%	Total	2
	7	4078	By Operation / Business Area	3
Indirect GHG/CO2 Emissions	л	10%	Total	2
	4	4078	By Operation / Business Area	2
SQ- Emissions	Λ	4.0%	Total	3
	-	40%	By Operation / Business Area	2
Gas Elaring	2	2.0%	Total	2
	3	50%	By Operation / Business Area	1
GHG/CO2a Emissions Intensity	2	20%	Total	1
	3	30%	By Operation / Business Area	3
Volatilo Organic Compounds (VOCs) Emissions	2	20%	Total	2
Volatile Organic compounds (VOCs) - Emissions	3	30%	By Operation / Business Area	1
			By Operation / Business Area	1
Direct GHG/CO2 _e Emissions Intensity	2	20%	Cogeneration	1
			Excluding Cogeneration	1
			Ву Туре	1
GHG Emissions (%)	2	20%	By Source	2
			By Operation / Business Area	1

Table 15: 2010 Emissions/Air Indicators and Subcategories Reported by 2 or more Corporations

Table 15 demonstrates that at the indicator level, there is a lack of alignment across corporations. Only 1 high level indicator "GHG/CO2_e Emissions" had all reporting corporations providing the same data; a company total. The remaining high level indicators may have had multiple corporations reporting, however, there was inconsistency in the way in which the indicator was reported. For example, the "NO_x Emissions" high level indicator was reported on by 5 corporations. Of those, 3 corporations reported it as a company total, and 3 reported it for specific business areas or operations within the company. Only 1 of the 5 corporations reported it in both ways. Complete breakdowns of counts and reporting corporations can be found in Appendix 3.

4.4.2 2014 Reports

Table 16 shows a complete breakdown of indicator counts by theme and by company for the 2014 reporting period.

THEME	# of Reporting Corporations	TOTAL by Theme	Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	ConcoPh illips	BP	Devon	Statoil	Syncrude	Total	Teck
Emissions/Air	12	97	13	1	8	11	5	9	2	6	0	5	22	3	12
Energy	9	22	4	0	1	2	1	0	0	1	0	2	4	2	5
Water	10	56	8	0	4	2	2	10	11	0	0	3	8	1	7
Land	12	55	4	4	8	2	2	5	3	5	0	1	12	2	7
Waste	4	18	0	0	2	1	0	0	0	0	0	0	9	0	6
Environmental Violations/Other	5	12	0	2	0	3	0	0	0	2	0	0	3	0	2
Communities/Charitable Involvement	7	15	2	0	0	3	0	1	0	2	0	1	1	0	5
Business Integrity	4	5	2	0	0	0	0	0	0	1	0	0	1	0	1
Employees	8	91	9	1	2	7	0	0	0	13	0	0	41	1	17
Aboriginals	6	7	2	0	0	1	0	1	1	0	0	0	1	0	1
Health & Safety	13	76	2	2	6	5	2	5	3	9	2	4	27	3	6
Financial	8	53	7	2	1	8	0	0	0	4	3	0	11	0	17
Operations	7	21	0	0	1	2	1	0	0	5	3	4	5	0	0

Table 16: Indicators by theme for 2014 Reporting Corporations

For the 2014, reporting period the most common themes to emerge amongst the indicators were (1) Emissions/Air, (2) Employees, and (3) Health and Safety. The indicators identified in each of these 3 themes accounted for 50% of the reported indicators. While "Health and Safety" was the third most popular in terms of number of indicators it was the only theme which was represented across all 13 corporations. "Emissions/Air" which was the most popular in terms of number of indicators reported; representing 18% of the total reported indicators was only reported on by 12 of the 13 corporations. Devon Canada Corporation did not report on an indicator within this theme. The "Employees" theme which represented 17% of the total reported indicators was only reported on by 8 of the 13 corporations.

When looking at themes based on the number of reporting corporations the top three themes become (1) Health and Safety, with all 13 companies reporting on an indicator in this theme, (2) Emissions/Air and land, which both have 12 of the 13 corporations reporting on an indicator in this theme.

As an example of how a theme was comprised of individual indicators consider the "Health and Safety" theme. For the "Health and Safety" theme, the 76 indicators fit into 27 high level indicators with a variety of sub-categories. Only 8, 30%, of these high level indicators were reported on by 2 or more corporations. Table 17 outlines these 8 high level indicators and sub-categories. The remaining 19 high level indicators, were only reported on by 1 corporation, and can be found in Appendix 4 along with the identified sub-categories.

	Total Reports Sub- Category			Sub-
Indicator			Category	
			Total	<u>Total</u> 10
Recordable Injury Frequency/Rate	12	85%	Employees	10
			Contractors	2
			Contractors Py Operation / Pysinges Area	2
	9	69%	Total	- 2
Lost Time Injury Frequency/Pate			Total	2
Lost Time injury Frequency/Rate			Contractors	2
		200/	Total	3
				2
Fatalities	F		Contractors	2
Fatalities	5	50%	Contractors	2
			By Operation/Business Area - Workforce	
	3	23%	By Operation/Business Area - Contractors	
Lest time Injuries				3
Lost time injuries			Employees	
				1
		23%	Total	3
Recordable Injuries	3		Employees	1
			Contractors	1
Exposure Hours Injury Severity Rate	2 2	15% 15%	Total	2
			By Operation/Business Area	1
			Total	2
			Employees	1
			Contractors	1
Vehicle Incidents	2	15%	Total	2

 Table 17: 2014 Health and Safety Indicators and Subcategories Reported by 2 or

 more Corporations

Table 17 once again demonstrates inconsistency at the indicator level. In 2014, none of the high level indicators for the "Health and Safety" theme were reported on by all corporations in the same way. "Recordable Injury Frequency/Rate" was the most commonly reported high level indicator, with 12 of the 13 corporations reporting. However, only 10 corporations reported on this as a company total. The remaining 2 corporations were Imperial Oil, which reported for 2 sub-categories – "Employees" and "Contractors", and Canadian Natural Resources, which reported for 1 sub-category –

"by Operation/Business Area". Interesting to note is that of the 12 reporting corporations on this indicator, 8 reported on the indicator strictly as a total number and 2 reported across multiple sub-categories. These 2 were Statoil, which reported this indicator as both a total number as well as for specific business areas/operations, and Syncrude which reported the indicator as a total and also as an employee number and contractor number, touching 3 of the sub categories.

Similar widespread inconsistencies can be found among all indicators spanning all themes. Complete breakdowns of counts and reporting corporations can be found in Appendix 4.

4.4.3 Indicators by Theme - Year over Year Comparison

This section looks at a year over year comparison of the identified themes to understand how reporting on these themes has evolved over time. Specifically it looks at the number of indicators per theme and number of corporations reporting on each theme.

Table 16 highlights the number of indicators reported for each theme for each time period as well as both the absolute number and percentage change over the 4 year period.

	# of Indicators			
Theme	2010	2014	Absolute Change YoY	% Change YoY
Water	26	56	30	115%
Energy	15	22	7	47%
Land	38	55	17	45%
Health and Safety	61	76	15	25%
Emissions/Air	82	97	15	18%
Environmental Violations/Other	11	12	1	9%
Employees	95	91	-4	-4%
Waste	19	18	-1	-5%
Communities/Charitable Involvement	16	15	-1	-6%
Financial	58	53	-5	-9%
Operations	24	21	-3	-13%
Business Integrity	8	5	-3	-38%
Aboriginals	0	7	N/A	

Table 18: # of Indicators Reported by Theme - YoY Change

When looking at the number of indicators being reported by theme there was relatively little change over time, as the top 3 themes reported remained the same. During the 2010 reporting period, the themes reported with the most number of indicators were "Employees", "Emissions/Air", and "Health and Safety". For the 2014 reporting period, while the top three themes remained the same, they did change in order to become "Emissions/Air", "Employees", and "Health and Safety". This shows some stability in terms of the issues the industry is focusing their reporting efforts on.

The "Aboriginal" theme was a theme that emerged when reviewing the 2014 reports and was not a reported theme in 2010. This is likely due to growing recognition for the need to address concerns from this particular stakeholder group. This recognition is further emphasized by the fact that in 2014 6 of the 13 reporting corporations reported on this theme; almost 50% of the industry.

It is interesting to note that the "Water" theme experienced over a 100% increase in the number of indicators reported between 2010 and 2014. The increased emphasis of this

theme is further underlined by the increase in the number of corporations reporting, going from 7 reporting corporations in 2010 to 10 reporting corporations in 2014. The "Business Integrity" theme experienced the greatest drop over time in terms of the number of reported indicators, from 8 in 2010 to only 5 in 2014, a 38% decrease. However, when looking at the number of reporting corporations on this theme, the number remained constant at 4 corporations. Of those 4 corporations only 2 were the same for both reporting periods, Teck and BP.

	# of Themes			
Theme	2010	2014	Absolute Change YoY	% Change YoY
Land	8	12	4	50%
Health and Safety	9	13	4	44%
Water	7	10	3	43%
Financial	6	8	2	33%
Energy	7	9	2	29%
Emissions/Air	10	12	2	20%
Communities/Charitable Involvement	6	7	1	17%
Operations	6	7	1	17%
Business Integrity	4	4	0	0%
Employees	8	8	0	0%
Environmental Violations/Other	6	5	-1	-17%
Waste	6	4	-2	-33%
Aboriginals	0	6	N/	A

Table 19: # of Corporations Reporting by Theme - YoY Change

A review of the data related to the number of corporations reporting on a theme again indicated that there was very little change over time. In 2010 the top three themes were "Emissions/Air", "Health and Safety", and "Employees" and "Land" (tied for the 3rd most common theme). In 2014 the top themes remained the same, although once again changed order to be "Health and Safety" with 13 corporations reporting, followed by "Land" and "Emissions/Air", both with 12 corporations reporting. Again this signifies not only consistency over time for these specific themes, but also demonstrates agreement and consistency across the corporations in this industry for reporting on these themes.

Finally, when looking at both the number of indicators per theme and the number of corporations reporting on a specific theme "Emissions/Air" and "Health and Safety" were in the top 3 for both time periods.

4.5 Indicators by Pillar

This section looks at how indicators span the 3 pillars of sustainability: Social, Economic and Environmental. Once indicators were grouped into theme groups, each group was further divided into the pillars of sustainability. Table 20 shows each theme and its associated pillar.

ENVIRONMENTAL	SOCIAL	ECONOMIC
Emissions/Air	Communities/Charitable Involvement	Financial
Energy	Business Integrity	Operations
Water	Employees	
Land	Aboriginals	
Waste	Health and Safety	
Environmental Violations/Other		

Table 20: Themes and Pillars

4.5.1 2010 Reports

Figure 9 shows the breakdown of indicators by pillar for the 2010 reporting period. Indicators associated with the environmental pillar made up 42% of the reported indicators. The social pillar of sustainability was almost equal at 40% of the reported indicators. Economic was the least represented pillar with only 18% of the reported indicators.



Figure 9: 2010 Indicators Reported by Pillar

Upon reviewing the pillars based on the number of reporting corporations it is clear that the majority of reporting corporations covered each of the three pillars of sustainability in a broadly similar way. Every reporting corporation included indicators within the environmental pillar. All except 1 corporation, Shell Canada, reported an indicator in the social pillar of sustainability. Finally, all but 2 corporations, Shell Canada once again and Conoco Phillips, reported on an indicator covering the economic pillar of sustainability. Figure 10 shows a breakdown of reporting corporations by pillar for 2010.



Figure 10: 2010 Corporations Reporting by Pillar

4.5.2 2014 Reports

Figure 11 shows the breakdown of indicators by pillar for the 2014 reporting period. Indicators associated with the environmental pillar made up 49% of the reported indicators. The social pillar of sustainability made up 37% of the reported indicators. The economic pillar once again was the least represented pillar with only 14% of reported indicators.



Figure 11: 2014 Indicators Reported by Pillar

A review of the pillars based on the number of reporting corporations indicated the majority of reporting corporations covered each of the pillars in their reports. Surprisingly, however, only 12 of the 13 reporting corporations included indicators within the environmental pillar; Devon did not report on an indicator in this theme. The social pillar of sustainability was covered by all 13 corporations. Finally, the economic pillar was reported on by 10 of the 13 reporting corporations. Shell Canada, Conoco Phillips and Total did not report any indicators spanning the economic pillar. Figure 12 shows a breakdown of reporting corporations by pillar for 2014.



Figure 12: 2014 Corporations Reporting by Pillar

4.5.3 Indicators by Pillar - Year over Year Comparison

This section looks at a year over year comparison of each pillar by both the number of reported indicators per pillar and the number of reporting corporations per pillar. The intent is to understand how reporting on each pillar has evolved over time. Table 21 and 22 show the year over year change in the number of indicators reported per pillar and the number of reporting corporations per pillar, respectively.

	2010	2014	Change		
Environmental	42%	49%	7%		
Social	40%	37%	-3%		
Economic	18%	14%	-4%		

Table 21. # of Indicators by Dillar - VoV

The environmental pillar remained the pillar with the greatest number of reported indicators for both time periods, but grew to include 7% more of the total indicators for the 2014 reporting period. Previously, the social and environmental pillar had been almost equally represented in terms of indicators reported. However, what is interesting about this trend is that while fewer of the reported indicators accounted for the social pillar in 2014, the number of corporations reporting grew from only 90% of reporting corporations, in 2010 to 100% in 2014. Further, while the environmental pillar accounted for more of the total reported indicators in 2014, the number of reporting corporations dropped from 100% to 92% or 12 of the reporting corporations. As previously mentioned, Devon Canada did not report any indicators across this pillar for 2014. However, the actual content of their report did cover this theme. For both time periods the economic pillar accounted for the fewest number of reported indicators with a year over year decline of 4%. A similar decline was seen with number of reporting corporations dropping from 80% to 77% in 2014.

Table 22. # of Reporting Corporations by Pr					
		2010	2014	Change	
	Environmental	100%	92%	-8%	
	Social	90%	100%	10%	
	Economic	80%	77%	-3%	

Table 22: # of Reporting Corporations by Pillar - YoY

5 Discussion and Conclusion

5.1 Discussion

Our world today, more than ever before, is facing the ever growing challenge of balancing new ways of growing economies, while simultaneously decreasing the impact on the environment. There is more awareness today than ever before on the need to find new and innovate ways to manage our resources, and to minimize adverse environmental and social impacts. This growing awareness and concern globally has forced corporations, particularly those having visible impacts, to reassess how they are managing these impacts. A review of the literature clearly indicates that corporations have not only been forced to recognize the potential adverse consequence of their actions, but have now taken on accountability to a group of stakeholders much broader than just their shareholders (Freeman, 1984). Moreover, there is no doubt that corporations operating in the Canadian oil sand industry have both recognized and responded to this need. In 2010, 77% of the corporations studied produced a sustainability report. By 2014, the total had grown to 100%. However, while there seems to be agreement across the industry regarding the need to report, the results presented in chapter 4 show that there is very little alignment within the industry on what exactly they should be reporting and how.

5.1.1 Key Findings on Indicator Frequencies

In both time periods, well over half of the indicators reported were only reported by 1 corporation. While there was a decrease in the number of indicators reported by 1 corporation only, from 81% in 2010 to 73% in 2014, it is still astounding. Furthermore, for both 2010 and 2014 there was not even one indicator that the industry unanimously reported on. Recordable injury frequency was the indicator reported by the most number of corporations in both time periods. For this indicator, the number of reporting corporations increased, from 80% in 2010 to 85% in 2014. However, even on this indicator there are issues with reporting consistency. Recall, indicators are intended to not only measure, but to also provide transparency around the progress a corporation is making toward achieving their goals (PwC, 2007). Keeble (2003) also outlined that indicators are intended to help stakeholders with understanding the impacts of a

61
corporation. However, understanding on the impacts of a corporation are limited if a stakeholder is not able to accurately benchmark the corporation against its peers. Consistency in the calculation and reporting of the indicators are critical in these regards. These findings line up with similar findings of inconsistency in reporting amongst corporations studied by Poveda (2015), Adams and Frost (2008), PWC (2009), and Roca and Searcy (2010). The lack of mandatory regulations around sustainability reporting as previously discussed in the literature review, might offer one explanation for the great range of reporting practices. These inconsistencies are further exacerbated by the apparent differences in the way corporations are presenting indicator data, which becomes evident when examining the sub categories associated with each of the indicators. For example, the differences in how a corporation reports the same indicator "Total" or "By Operation/Business Area" as demonstrated by the "Gas Flaring" example presented in section 3.4. While these inconsistencies make comparison challenging they can likely be explained by the diversity of each corporations operations beyond just the oil sands industry in Canada.

5.1.2 Key Findings on Indicator Themes

The disconnect on indicator alignment across the industry is quite clear based on the research conducted and results presented. As such, the need for grouping indicators into themes was necessary in order to further investigate parallels and trends across the industry. As previously outlined, for the 2010 reporting period 12 themes emerged, with one additional theme emerging in 2014. In 2010, only 1 of the themes was reported on by all corporations. Of the remaining 11 themes, 10 of themes were reported on by more than half the corporations and only 1 theme had less than half the corporations reporting. In 2014, again only 1 theme was reported on by all corporations. Of the memere reported on by more than half of the corporations. What is interesting to note is that the newly emerged theme in 2014, aboriginals, was one of the themes reported on by more than half the corporations. What is interesting to note is that the newly emerged theme in 2014, aboriginals, was one of the themes reported on by more than half the corporations. Conditional that Aboriginal issues were prominent when looking at key issues surrounding Canadian electric utilities. The findings of this research suggest the same is true for the Aboriginal stakeholder group as it relates to the Canadian oil sands industry.

While the theme level does not indicate total alignment across the industry, it does suggest similarities across corporations regarding the broad types of information they have determined is important to report on. This may be partially explained through the lens of institutional theory. When you look at the themes reported on by the greatest number of corporations over time, the most common themes remained the same, namely "emissions/air", "health and safety", "land" and "water". These, issues generally align with the issues the oil sands faces the most pressure on (Poveda, 2015). As Poveda (2015) explained, the oil sands are receiving worldwide attention for the potential social and environmental impacts they can be associated with. Regulatory and stakeholder pressure arising from this attention may be viewed as a form of coercive pressure as outline by DiMaggio and Powell (1983). DiMaggio and Powell (1983) also outlined mimetic mechanisms as a trigger for institutional isomorphic changes. The likelihood of this taking place in the industry is less clear through the results found. It is evident in some respects when you look at the growth in reporting corporations for most of the themes over time. Ten of the 12 themes present for both time periods experienced a growth in the number of reporting corporations over the 4 year period. This trend was consistent with the findings of Adams and Frost (2008) who found that corporations operating within the same industries tended to display similarities in the issues they placed focus on. DiMaggio and Powell (1983) outlined one final potential mechanism, normative. The presence of guidelines such as the GRI and professional organizations like COSIA who have outlined certain focus areas would lend to the idea of normative mechanisms being present. Specifically, 3 of the 4 main focus areas outlined by COSIA land, greenhouse gases and water (COSIA, 2016b) were also the same themes reported on by the greatest number of corporations. Further, trends in growth and the addition of the new aboriginal theme in 2014 would suggest some indication on stakeholder theory. Growth in certain categories could be the result of increased stakeholder attention. Note that stakeholder groups can include groups represented both internal to the corporation as well as external.

5.1.3 Key Findings on Indicator Pillars

The greatest level of alignment across the industry becomes apparent when looking at the three pillars of the triple bottom line and how the indicators reported span these pillars. This is once again likely due to factors of institutional theory.

For both time periods the environmental pillar by far represented the largest number of indicators reported and the largest number of reporting corporations, this was followed by the social pillar, again for both time periods. This trend can once again be linked back to coercive pressures. As outlined above, all 4 of themes reported by the greatest number of corporations, align with the areas Poveda (2015) outlined as receiving the most worldwide attention. Of these 4 themes, 3 fall into the environmental pillar, while the remaining themes can be categorized as falling into the social pillar. In producing these reports the individual corporations are seeking to achieve legitimacy and acceptance by environmental groups, surrounding communities and other stakeholder groups so that they can operate successfully as Hatch and Cunliffe (2013) outline. Adams and Frost (2008) noted that corporations operating in environmentally high impact industries placed a larger focus on indicators spanning the environmental theme. Adams and Frost (2008) also noted that the specific information being provided, even by corporations operating in the same industry and country, tended to be inconsistent. Not only a shocking conclusion, which is further enforced by the findings of this research, but also a conclusion which would reinforce the lesser impact that mimetic mechanisms may have played. Finally, the heavy weight placed on the environmental pillar would once again suggest that normative pressures may have played a role here. This is evident when you observe that the 4 key focus areas outlined by COSIA are all environment related (COSIA, 2016b).

Further to note is that the three pillars in which each of these indicators was categorized suggests alignment with Gray and Milne (2002) who argue that sustainability reporting is too complex a process. Instead Gray and Milne (2002) suggest that what we see being produced by corporations today are *"triple bottom line reports"*; in other words they argue these reports examine each of the pillars separately as opposed to looking

at of each of them as they interact with each other. Often, these reports were broken out into distinct sections or indicators focusing on issues addressing only one of pillars at a time. There were few indicators that addressed the broader sustainability context in which the corporations operate.

5.2 Summary

The central research question addressed in this study was "how consistently are companies operating in the Canadian oil sands industry both measuring and communicating their sustainability performance to stakeholders?" The three subquestions were:

- 1. What indicators are currently being reported by these corporations?
- 2. How consistent is reporting and indicator use across companies operating in the Canadian oil sands industry?
- 3. How has the use of indicators and the consistency of reporting across the industry evolved over time?

In order to address these three questions a content analysis of sustainability or equivalent reports was conducted. Thirteen reports, produced by corporations representing 90% of oil sands production (COSIA, 2016c) were reviewed. In order to address the first question, "what indicators are currently being reported by these corporations?" a database of indicators was created for both 2010 and 2014. The database of indicators outlined both high level indicators and sub categories of indicators being reported by each corporation studied. These databases can be found in Appendix 3 and 4, for 2010 and 2014, respectively.

The second question, "how consistent is reporting and indicator use across companies operating in the Canadian oil sands industry?" was addressed through categorizing the identified indicators into 13 different theme groups and then further into the 3 pillars of sustainability. This was necessary because of the vast and differing indicators presented by each corporation, which shed light on a lack of consistency across the

industry. Through categorizing the identified indicators into themes, and the subsequently into each pillar, it was found that the environmental pillar made up the largest representation of indicators. This was followed by the social pillar for both 2010 and 2014. Within each of the these pillars the most commonly reported themes were "emissions/air", "health and safety", "land" and "water". These remained the same for both time periods.

The third question, "how has the use of indicators and the consistency of reporting across the industry evolved over time?" was addressed through a comparative analysis of the indicator databases, theme assignments and pillar assignments for both reporting periods, 2010 and 2014. The research conducted allowed for the creation of a database of 453 indicators broken into 272 high level indicators, and 528 indicators broken into 272 high level indicators, and 528 indicators broken into 272 high level indicators and cross comparing it was evident that little change had occurred over time towards achieving a streamlined and consistent set of indicators across the industry. However, what was noted was the increase to 100% of corporations included in this study completing a report in 2014, up 23% from 2010.

It was concluded that while there was a definite recognition and acceptance for the need of producing a sustainability report, extensive work still needs to be done to ensure that corporations across the industry are providing the same information in the same way so that it can be easily understood and interpreted by stakeholders.

5.3 Contributions

The literature review took an extensive look into the information currently available with respect to sustainability reporting and indicators, particularly in the context of the Canadian oil sands industry. What was found was that, while there has been extensive work completed looking at sustainability reporting and sustainability indicators, little information was available specifically looking at the use of these tools and the evolution of these tools over time in the Canadian oil sands industry.

This research provided the first comprehensive database of indicators disclosed by corporations operating within this industry. This is important given the enormous economic, environmental and social impacts, both positive and negative, associated with this industry. Additionally, this research can act as a baseline for a number of potential streams of future research. The research documented critical issues surrounding the use of indicators in sustainability reporting across this industry. It outlined that, while the industry has recognized a need for producing a sustainability report and has taken steps to address this need, there is still progress to be made. As uncovered by this research, there is a great deal of diversity and inconsistency amongst the indicators each company has reported on. Also concerning, were the inconsistencies in the way these corporations reported indicators that they were seemingly aligned on. This research provides an understanding of the current state of sustainability reporting and indicator use across this industry and, as such, can help to spark a shift towards more consistent and streamlined reporting by each of these corporations. This shift can take place either through the implementation of consistent reporting requirements on a specific set of indicators across the industry or via widespread agreement and collaboration across the corporations operating in this industry to each use one of the already recognized set of voluntary guidelines available in a consistent way.

5.4 Limitations

While the research conducted represents a comprehensive look into the use of indicators and sustainability reporting across the Canadian oil sands industry, some limitations have been identified. When looking at the sustainability reports produced by these companies, only pdf documents were included, and in some cases the summary report. As such, the study did not include information that each corporation may have included in other areas of their websites or their financial reports. Further, these reports generally covered the entirety of a corporations operation and as such pulling out oil sands specific indicators was not possible. A second limitation lies around the corporations included in this study. As outlined in the methods, COSIA member corporations were chosen as the corporations to be included in this study since they

make up 90% of oil sands production in Canada. Corporations accounting for the remaining 10% of production were not included. This study looked strictly at corporations working in Canada's oil sands industry and did not look at similar corporations operating in other types of oil production, or oil sands projects in other places of the world. Finally, the study relied solely on what the corporations chose to publicly share. It is possible additional indicators are used internally.

5.5 Recommendation for Future Research

This research provides a basis for many streams of potential work in the future. First, a similar content analysis can be completed on corporations operating in other streams of oil production. For example, off shore or corporations making up the production of oil sands in other areas of the world, like Venezuela. This would allow for benchmarking across countries. A second potential stream of work could focus on reaching out to oil sands corporations either through the use of questionnaires or via interviews to understand how corporations determine what indicators to disclose in their sustainability reports. This work could provide a basis for understanding some of the recognized trends identified in the content analysis above. Finally, the most pressing piece of future research could focus around collaborating with oil sands corporations along with their key stakeholder groups to put together a proposal for a consistent set of sustainability indicators for the Canadian oil sands industry. This is by far the most critical piece of work which needs to take place in order to ensure that corporations operating in the industry are addressing and communicating information on the most pertinent issues facing the industry. One area of particular need is the development of indicators linked to the broader sustainability context in which the industry operates.

5.6 Conclusion

The study showed little consistency in terms of which indicators are being reported by corporations operating in the Canadian oil sands industry. The study did demonstrate some consistency between the themes and pillars represented by the indicators. Reports are covering similar themes and almost all reporting corporations are spanning each pillar. As discussed, this may be due in part, to the institutionalization of reporting

in the industry. This can also be attributed to stakeholder theory, suggesting corporations are responding to the needs of their stakeholders, internal and external, by providing certain information. With respect to the themes and pillars, each corporation has recognized and responded to a need for communication on certain issues to stakeholders and have done so in a way similar to that of their peers. However, this does not extend to the individual indicators themselves. Not only do the indicators vary a great deal, but even for those indicators that are consistently being reported, the manner in which this is done varies widely. This makes any type of cross comparison among industry players and benchmarking nearly impossible. For a stakeholder trying to understand how these corporations measure up against one another, the information is difficult to decipher. It is clear that while there are voluntary tools available for corporations to use when reporting; the lack of comparability is impeding the ability of these reports to provide meaningful and actionable information for stakeholders. Based on the findings, and as previously outlined, the most pertinent area for future would be working with the industry to collaborate on a set of consistent indicators to be reported and measured in the same way. This would provide stakeholders with comparable information which can in turn create action towards mitigating adverse impacts.

Appendices

Appendix 1: 2010 Raw Data Spreadsheets

		LOCATION				
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
1	Reported and Substantiated Integrity Incidents - Total	#	10	Culture of Integrity	Table	Business Integrity
2	Reported and Substantiated Integrity Incidents - By Category	# Broken into 8 categories: Security/Employee Relations/Legal & Regulatory Compliance/Environment, Health & Safety/Misuse of Company Assets/Financial/Community Affairs/Human Rights	10	Culture of Integrity	Table	Business Integrity
3	Water Diverted - By Operation	thousand m ³ Reported for 2 operations: Nexen Canadian Oil & Gas/Long Lake	16	Water Management	Chart	Water
4	Production Carbon Intensity - Company Wide	tonnes of CO ₂ e/per cubic metre of oil equivalent	19	Greenhouse Gases	Chart	Emissions/Air
5	CO2e Emissions - Company Wide	million tonnes	21	Greenhouse Gases	Chart	Emissions/Air
6	Total Recordable Injury Frequency (TRIF) - Company Wide	combined employee/contractor, per 200,000 exposure hours	31	Health & Safety	Chart	Health & Safety
7	Environmental Incidents - Company Wide	# - Spills & Exceedances Combined	31	Health & Safety	Chart	Environmental Violations/Other
8	Employee Engagement Score	96	37	People	Chart	Employees
9	Voluntary Turnover Rate	96	37	People	Chart	Employees
10	Community Investment	Cdn\$ Millions	40	People	Chart	Communities/Charitabl e Involvement
11	Cash Income Taxes - Total	Cdn\$ Millions		Economic	Chart	Financial
12	Cash Income Taxes - By Country	CdnS Millions Reported for 5 Countries: Yemen/Canada/United States/United Kingdom/Other	43	Economic	Table	Financial
13	Royalties Paid	Cdn\$ Millions (broken out by Country)	43	Economic	Table	Financial

		LOCATION	THEME				
"	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIME	
1	Pipeline Failures - Total	# Total	7	Infrastructure Integrity	Chart	Operations	
2	Pipeline Failures - Per 1,000 km pipeline	# per 1,000 km pipeline	7	Infrastructure Integrity	Chart	Operations	
3	Repairs due to in-service failures vs. Repairs found on planned inspections	Relative %	7	Infrastructure Integrity	Chart	Operations	
4	Recordable Injury Frequency - By Operation	Per 200,000 hours worked - employees and contractors Reported for 3 operations: North American Conventional Operations/ Horizon Oil Sands/International Operations	21	Statistics	Indicator Summary Sheet	Health & Safety	
5	Fatalities - Employees - By Operation	# Reported for 3 operations: North American Conventional Operations/ Horizon Oil Sands/International Operations	21	Statistics	Indicator Summary Sheet	Health & Safety	
6	Fatalities - Contractors - By Operation	# Reported for 3 operations: North American Conventional Operations/ Horizon Oil Sands/International Operations	21	Statistics	Indicator Summary Sheet	Health & Safety	
7	Reportable Spills - By Operation	# Reported for 3 operations: North American Conventional Operations/ Horizon Oil Sands/International Operations	21	Statistics	Indicator Summary Sheet	Land	
8	Reportable Volume Spilled - By Operation	m ³ Reported for 3 operations: North American Conventional Operations/ Horizon Oil Sands/International Operations	21	Statistics	Indicator Summary Sheet	Land	
9	Spills & Leaks/Production - By Operation	MMBOE Reported for 2 operations: North American Conventional Operations/Horizon Oil Sands	21	Statistics	Indicator Summary Sheet	Land	
10	Volume of Spills & Leaks/Production - By Operation	m ³ /MMBOE Reported for 2 operations: North American Conventional Operations/Horizon Oil Sands	21	Statistics	Indicator Summary Sheet	Land	
11	Leaks/1,000 km pipeline - By Operation	# Reported for 1 operation: North American Conventional Operations	21	Statistics	Indicator Summary Sheet	Operations	
12	Waste - Dangerous Oil Field Waste	m³	22	Statistics	Indicator Summary Sheet	Waste	
13	Active operated wells	#	22	Statistics	Indicator Summary Sheet	Land	
14	Inactive operated wells	#	22	Statistics	Indicator Summary Sheet	Land	
15	Wells abandoned	#	22	Statistics	Indicator Summary Sheet	Land	
16	Reclamation certificates submitted	#	22	Statistics	Indicator Summary Sheet	Land	
17	Direct GHG Emissions from Fuel Consumption	million tonnes CO ₂ E Reported for 3 operations: North American Conventional	22	Statistics	Indicator Summary Sheet	Emissions/Air	
18	Indirect GHG Emissions - Electricity Consumption (TWh)- By Operation	million tonnes CO ₂ E Reported for 2 operations: North American Conventional Operations/Horizon Oil Sands	22	Statistics	Indicator Summary Sheet	Emissions/Air	
19	Indirect GHG Emissions - By Operation	million tonnes CO ₂ E Reported for 2 operations: North American Conventional Operations/Horizon Oil Sands	22	Statistics	Indicator Summary Sheet	Emissions/Air	
20	Direct GHG Emissions - By Operation	million tonnes Reported for 3 operations: Broken out by North American Conventional Operations/Horizon Oil Sands/International Operations	22	Statistics	Indicator Summary Sheet	Emissions/Air	
21	Direct GHG Emissions Intensity - By Operation	tonnes CO ₂ e/BOE Reported for 3 operations: Broken out by North American Conventional Operations/Horizon Oil Sands/International Operations	22	Statistics	Indicator Summary Sheet	Emissions/Air	

		CONTENT ANALYSIS - CANADIAN NATURAL RESOURCES			LOCATION	THEME
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
22	Total gas flared - By Operation	10 ³ m ³ Reported for 3 operations: Broken out by North American Conventional Operations/Horizon Oil Sands/International Operations	23	Statistics	Indicator Summary Sheet	Emissions/Air
23	Total gas vented - By Operation	10 ³ m ³ Reported for 3 operations: Broken out by North American Conventional Operations/Horizon Oil Sands/International Operations	23	Statistics	Indicator Summary Sheet	Emissions/Air
24	Oxides of Nitrogen - By Operation	tonnes Reported for 1 operation: North American Conventional Operations	23	Statistics	Indicator Summary Sheet	Emissions/Air
25	Sulphur Dioxide - By Operation	tonnes Reported for 1 operation: North American Conventional Operations	23	Statistics	Indicator Summary Sheet	Emissions/Air
26	Employees - By Operation	# Reported for 3 operations: Broken out by North American Conventional Operations/Horizon Oil Sands/International Operations	23	Statistics	Indicator Summary Sheet	Employees
27	Exposure Hours - By Operation	millions Reported for 3 operations: Broken out by North American Conventional Operations/Horizon Oil Sands/International Operations	23	Statistics	Indicator Summary Sheet	Health & Safety

		LOCATION	TUENE			
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
1	Employment - By Region	% of full time employees Broken into 4 regions: Central/Atlantic/Western/Northern Canada	3	Corporate Governance	Chart	Employees
2	Allocation of Community Investment	% of total by focus area Broken into 4 focus areas: Math, Science, Technology, education/Environment/Civinc&Community/ Aboriginol	11	Economic Development	Chart	Communities/Charitabl e Involvement
3	Payments to governments - By region	\$ millions Broken into 4 regions: Federal/Western/Central/Atlantic/Northern	11	Economic Development	Chart	Financial
4	Net Income	\$ millions	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Financial
5	Annual Shareholders' Return	96	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Financial
6	Return on average capital employed	96	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Financial
7	production	thousand barrels per day	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Operations
8	Gross natural gas production	million cubic feet per day	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Operations
9	Refinery throughput	thousand barrels per day	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Operations
10	Chemical sales volumes	thousand tonnes per day	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Operations
11	Long-term debt	\$ millions	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Financial
12	Cash and cash equivalents at year-end	s	13	Business Highlights Data: Financial and Operating	Indicator Summary Sheet	Financial
13	Capital and exploration expenditures	\$ millions	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Financial
14	Common shares purchased	\$ millions	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Financial
15	Dividends	\$ millions	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Financial
16	Corporate political contributions	\$ thousands	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Financial
17	Number of regular employees at year-end	Total #	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Employees
18	Percent of women	96	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Employees
19	Percent of visible minorities	96	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Employees
20	Percent of Aboriginal peoples	96	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Employees
21	Percent of persons with disabilities	96	13	Citizenship Performance Data: Corporate Governance	Indicator Summary Sheet	Employees
22	Fatalities - employees	Total #	13	Citizenship Performance Data: Safety and Health	Indicator Summary Sheet	Health & Safety
23	Fatalities – contractors	Total #	13	Citizenship Performance Data: Safety and Health	Indicator Summary Sheet	Health & Safety
24	Lost-time incident frequency – employees	per 200,000 hours worked	13	Citizenship Performance Data: Safety and Health	Indicator Summary Sheet	Health & Safety
25	Lost-time incident frequency – contractos	per 200,000 hours worked	13	Citizenship Performance Data: Safety and Health	Indicator Summary Sheet	Health & Safety
26	Total recordable incident frequency – employees	per 200,000 hours worked	13	Citizenship Performance Data: Safety and Health	Indicator Summary Sheet	Health & Safety
27	l otal recordable incident frequency – contractors	per 200,000 hours worked	13	Citizenship Performance Data: Safety and Health	Indicator Summary Sheet	Health & Safety
28	Sulphur dioxide	thousand tonnes	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Emissions/Air

		CONTENT ANALYSIS - IMPERIAL OIL						
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME		
29	Nitrogen oxides	thousand tonnes	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Emissions/Air		
30	Volatile organic compounds	thousand tonnes	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Emissions/Air		
31	Gas flaring from oil production	million cubic feet per day	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Emissions/Air		
32	Solution gas recovery from oil production	percent of total solution gas produced	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Emissions/Air		
33	Fresh water use - By Operation	cubic metres of fresh water per cubic metre of bitumen produced Reported for 1 operation: at Cold Lake operation	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Water		
34	Total energy use	million gigajoules	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Energy		
35	Oil and chemical spills	Total #	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Land		
36	Volume of product from oil and chemical spills in barrels	# of barrels	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Land		
37	Hazardous waste	thousand tonnes	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Waste		
38	Number of environmental regulatory compliance incidents	Total #	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Environmental Violations/Other		
39	Environmental fines and penalties	S thousands	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Environmental Violations/Other		
40	Environmental expenditures	S millions	13	Citizenship Performance Data: Environmental Performance	Indicator Summary Sheet	Financial		
41	Greenhouse gas direct emissions – excluding cogeneration	million tonnes of CO2e	13	Citizenship Performance Data: Managing Climate Change Risl	Indicator Summary Sheet	Emissions/Air		
42	Direct emissions – cogeneration	million tonnes of CO2e	13	Citizenship Performance Data: Managing Climate Change Risl	Indicator Summary Sheet	Emissions/Air		
43	Indirect emissions	million tonnes of CO2e	13	Citizenship Performance Data: Managing Climate Change Risl	Indicator Summary Sheet	Emissions/Air		
44	Total emissions	million tonnes of CO2e	13	Citizenship Performance Data: Managing Climate Change Risl	Indicator Summary Sheet	Emissions/Air		
45	GHG emission intensity - By Business Area	Reported for 2 business areas: Upstream (tonnes of CO2e per barrel of oil equivalent produced)/Downstream and Chemicals (tonnes of CO2e per unit of normalized throughput)	13	Citizenship Performance Data: Managing Climate Change Risl	Indicator Summary Sheet	Emissions/Air		
46	Fuels refining energy intensity	normalized index	13	Citizenship Performance Data: Managing Climate Change Risl	Indicator Summary Sheet	Energy		
47	Community investment	\$ millions	13	Citizenship Performance Data: Economic Development	Indicator Summary Sheet	Communities/Charitabl e Involvement		
48	Contributions to United Way-Centraide campaigns	\$ millions	13	Citizenship Performance Data: Economic Development	Indicator Summary Sheet	Communities/Charitabl e Involvement		
49	Payments for goods and services	\$ billions	13	Citizenship Performance Data: Economic Development	Indicator Summary Sheet	Financial		
50	Taxes and royalties to government	S billions	13	Citizenship Performance Data: Economic Development	Indicator Summary Sheet	Financial		

#		CONTENT ANALYSIS - IMPERIAL OIL				
	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	TILIVIE
51	Wages and benefits to employees	\$ billions	13	Citizenship Performance Data: Economic Development	Indicator Summary Sheet	Financial
52	Cultural awareness	# of people trained	13	Citizenship Performance Data: Community Engagement	Indicator Summary Sheet	Employees

			LOCATION	THENE		
	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
1	Air Emissions (includes \$02, NOx, VOC) - Total	thousands tonnes/year	3	Performance at a Glance	Chart	Emissions/Air
2	Air Emissions (includes \$02, NOx, VOC) - By Operation	thousands tonnes/year Broken out for 6 operations: Oil Sands/Natural Gas/R&M/In Situ/International & Offshore/St. Claire Ethanol Plant	3	Performance at a Glance	Chart	Emissions/Air
3	Water Withdrawal	million m ³	3	Performance at a Glance	Chart	Water
4	Water Consumption	million m ³	3	Performance at a Glance	Chart	Water
5	Land Disturbed - By Operation	cumulative hectares Reported for one operation: Oil Sands	3	Performance at a Glance	Chart	Land
6	Land Reclaimed - By Operation	cumulative hectares & percent Reported for one operation: Oil Sands	3	Performance at a Glance	Chart	Land
7	Lost Time Injury Frequency - Employees	injuries per 200,000 hours worked	3	Performance at a Glance	Chart	Health & Safety
8	Lost Time Injury Frequency - Contractors	injuries per 200,000 hours worked	3	Performance at a Glance	Chart	Health & Safety
9	Net Production - By Operation	thousands of boe/day Reported for 2 operations: Oil Sands (including Syncrude)/Other	3	Performance at a Glance	Chart	Operations
10	Installed Wind Capacity	megawatts	3	Performance at a Glance	Chart	Energy
11	GHG Emissions - Total	thousand tonnes CO2 equivalents (CO2e)	14	Our Climate Change Performance	Chart	Emissions/Air
12	GHG Emissions Intensity - Total	tonnes CO ₂ e/cubic metre of oil equivalent (m ³ OE)	14	Our Climate Change Performance	Chart	Emissions/Air
13	GHG Emissions - By Business Area	thousand tonnes CO ₂ equivalents (CO ₂ e) Reported for 1 business area: Oil Sands	15	Our Climate Change Performance	Chart	Emissions/Air
14	GHG Emissions Intensity - By Business Area	tonnes CO ₂ e/cubic metre of oil equivalent (m ³ OE) Reported for 1 business area: Oil Sands	15	Our Climate Change Performance	Chart	Emissions/Air

		CONTENT ANALYSIS - SHELL CANADA					
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	ITEWE	
1	Total Carbon Dioxide Equivalent	Mt CO2e	3	Carbon Dioxide	Chart	Emissions/Air	
-	(CO2e) emissions - Direct	Reported for Oil Sands Operation	-		Chart	Emissionsym	
2	Total Carbon Dioxide Equivalent	Mt CO2e	3	Carbon Dioxide	Chart	Emissions/Air	
-	(CO2e) emissions - Indirect	Reported for Oil Sands Operation	-				
3	Total Carbon Dioxide Equivalent	Total CO2e Intensity kg/bbl	2	Carbon Diovide	Chart	Emissions/Air	
~	(CO2e) emissions Intensity	Reported for Oil Sands Operation	1		chart	Emissions/Air	
4	Total Water Use - By Operation	Total annual water use (m3)	4	Water	Chart	Water	
4	Total water use by operation	Reported for 2 Operations: Muskeg Mine/Scotford Upgrader	0.7	Water	chart	water	
	Water Use - Recycled Pond Water - By	96		Water	Chart	Watar	
	Operation	Reported for 1 Operation: Muskeg Mine	-	water	chart	water	
6	Water Use - Fresh Water (Athabasca) - By	96		Water	Chart	Mana	
0	Operation	Reported for 1 Operation: Muskeg Mine	-	Tatel	chart	water	
7	Total Effluent Treated & Returned to the River -	96		Water	Chart	Mahar	
1	By Operation	Reported for 1 Operation: Scotford Upgrader	-	water	Chart	water	
	Total volume of tailings discharged to external	million m3	-	Tallians	Tabla	Incel	
•	tailings facility	minion ms	2	Tanings	Table	Land	
9	EPEA approved footprint	Hectares	6	Land & Reclamation	Table	Land	
10	Total active footprint (mine + plant size)	Hectares	6	Land & Reclamation	Table	Land	
11	Cleared Land	Hectares	6	Land & Reclamation	Table	Land	
12	Disturbed Land (used for mine or plant	U		Land & Daylemation	Tabla	land.	
12	purposes)	Hectares	0	Land & Reclamation	Table	Land	
13	Permanent Reclamation	Hectares	6	Land & Reclamation	Table	Land	
14	Temporary Reclamation	Hectares	6	Land & Reclamation	Table	Land	
15	Certified Reclamation	Hectares	6	Land & Reclamation	Table	Land	

		CONTENT ANALYSIS - CONOCOPHILLIPS			LOCATION	THEME	
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	ITEIVIE	
1	Core Value Questionaire Responses	6 core values: Safety/People/Integrity/Responsibility/Innovation/Teamwork	8	Invest in our Employees	Chart	Employees	
2	Diversity & Inclusion Questionaire Responses		9	Invest in our Employees	Chart	Employees	
3	Employees - Women	96	9	Invest in our Employees	Table	Employees	
4	Employees - Non U.S. Employees	96	9	Invest in our Employees	Table	Employees	
5	Leadership - Women	96	9	Invest in our Employees	Table	Employees	
6	Leadership - Non U.S.	96	9	Invest in our Employees	Table	Employees	
7	Officials and Managers - Women	96	9	Invest in our Employees	Table	Employees	
8	Officials and Managers - Minorities	96	9	Invest in our Employees	Table	Employees	
9	Professionals - Women	96	9	Invest in our Employees	Table	Employees	
10	Professionals - Minorities	96	9	Invest in our Employees	Table	Employees	
11	2008 Greenhouse Gas Emissions - % By Source	4 sources: CO_2 from Methane/Steam/Imported Electricity/Operations	23	Improve Energy & Material Efficiency	Chart	Emissions/Air	
12	Total - Greenhouse Gas Emissions CO ₂ Equivalent	million metric tonnes	23	Improve Energy & Material Efficiency	Chart	Emissions/Air	
13	Greenhouse Gas Emissions CO ₂ Equivalent - By Operation	million metric tonnes Broken out for 2 operations: Refining, Marketing & Transportation/Exploration & Production & Midstream	23	Improve Energy & Material Efficiency	Chart	Emissions/Air	
14	Flaring Volume per Unit of Prodcution - By Operation	MMCF/MMBOE Broken out for 2 operations: Global Refining/Exploration & Production & Midstream	23	Improve Energy & Material Efficiency	Chart	Emissions/Air	
15	Energy Used - By Operation	Trillion BTU per Unit of Production Broken out for 2 operations: Exploration & Production & Midstream/Global Refining	24	Improve Energy & Material Efficiency	Chart	Energy	
16	2008 Waste Profile - %	% Broken out for 3 types: Nonhazardous/Recycled/Hazardous	25	Waste Minimization Performance	Chart	Waste	
17	Total Recordable Rate - Workforce		26	Operate Safely	Chart	Health & Safety	
18	Lost-Work-Day case - Workforce		26	Operate Safely	Chart	Health & Safety	

#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
1	Fatalities - Employees	# of	6	BP in Figures	Indicator Summary Sheet	Health & Safety
2	Fatalities - Contractors	# of	6	BP in Figures	Indicator Summary Sheet	Health & Safety
з	Days away from work cases - workforce	# of	6	BP in Figures	Indicator Summary Sheet	Health & Safety
4	Days away from work case frequency (DAWFCF) - Workforce	Per 200,000 hours worked	6	BP in Figures	Indicator Summary Sheet	Health & Safety
5	Recordable Injuries - Workforce	# of	6	BP in Figures	Indicator Summary Sheet	Health & Safety
6	Recordable Injury Frequency (RIF) - Workforce	Per 200,000 hours worked	6	BP in Figures	Indicator Summary Sheet	Health & Safety
7	Hours Worked - Employees	million hours	6	BP in Figures	Indicator Summary Sheet	Employees
8	Hours Worked - Contractors	million hours	6	BP in Figures	Indicator Summary Sheet	Employees
9	# of oil spills - Loss of primary contrainment	# of (more than or equal to one barrel)	6	BP in Figures	Indicator Summary Sheet	Land
10	Volume of Oil Spilled	million litres	6	BP in Figures	Indicator Summary Sheet	Land
11	Volume of Oil Unrecovered	million litres	6	BP in Figures	Indicator Summary Sheet	Land
12	Direct Carbon Dioxide (CO ₂)	million tonnes (Mte)	6	BP in Figures	Indicator Summary Sheet	Emissions/Air
13	Indirect Carbon Dioxide (CO ₂)	million tonnes (Mte)	6	BP in Figures	Indicator Summary Sheet	Emissions/Air
14	Direct Methane	million tonnes (Mte)	6	BP in Figures	Indicator Summary Sheet	Emissions/Air
15	Direct Greenhouse Gas (GHG) Emissions	MteCO ₂ e	6	BP in Figures	Indicator Summary Sheet	Emissions/Air
16	Flaring (E&P)	thousand tonnes (kte) of hydrocarbons	6	BP in Figures	Indicator Summary Sheet	Emissions/Air
17	Customer Emissions	MTeCO ₂	6	BP in Figures	Indicator Summary Sheet	Emissions/Air
18	Environmental & Safety Fines	\$ millions	6	BP in Figures	Indicator Summary Sheet	Environmental Violations/Other
19	Environmental Expenditures	\$ million	6	BP in Figures	Indicator Summary Sheet	Financial
20	Number of employees - group	# of	6	BP in Figures	Indicator Summary Sheet	Employees
21	Number of group leaders	# of	6	BP in Figures	Indicator Summary Sheet	Employees
22	Women in group leadership	96	6	BP in Figures	Indicator Summary Sheet	Employees
23	People from UK and US racial minorities in group leadership	96	6	BP in Figures	Indicator Summary Sheet	Employees
24	People from beyond the UK and US in group leadership	96	6	BP in Figures	Indicator Summary Sheet	Employees
25	OpenTalk Cases	# of	6	BP in Figures	Indicator Summary Sheet	Business Integrity
26	Dismissals for non-compliance and unethical behaviour	# of	6	BP in Figures	Indicator Summary Sheet	Employees
27	Benefits to Employees (wages, salaries, share- based payments, benefits and pensions)	\$ million	6	BP in Figures	Indicator Summary Sheet	Financial
28	Contracts terminated or not renewed due to non compliance or unethical behaviour	# of	6	BP in Figures	Indicator Summary Sheet	Business Integrity
29	Total Hydrocarbons Produced	thousand barrels of oil equivalent (mboe) per day	6	BP in Figures	Indicator Summary Sheet	Operations
30	Reserves Replacement Ratio	96	6	BP in Figures	Indicator Summary Sheet	Operations
31	Total Refinery Throughputs	thousand barrels per day (mb/d)	6	BP in Figures	Indicator Summary Sheet	Operations
32	Total Petrochemicals Production	thousand tonnes (kte)	6	BP in Figures	Indicator Summary Sheet	Operations
33	Replacement Cost Profit	\$ million	6	BP in Figures	Indicator Summary Sheet	Operations
34	Taxes to governments - comprising income taxes and production taxes paid	\$ million	6	BP in Figures	Indicator Summary Sheet	Financial
35	Dividends paid to shareholders	\$ million	6	BP in Figures	Indicator Summary Sheet	Financial
36	Contribution to communities	\$ million	6	BP in Figures	Indicator Summary Sheet	Communities/Charitabl e Involvement
37	Employee Satisfaction	96	7	BP in Figures	Chart	Employees
38	Gross Wind Cpacity	megawatts	17	Low-Carbon Energy	Chart	Energy
39	Operational Management System Implementation	%/phase	21	Safe and Responsible Energy	Chart	Operations

		CONTENT ANALYSIS - BP CANADA			LOCATION	THEME
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
40	OpenTalk Cases - By Region	# Broken into 5 regions: Location withheld/Asia, India & Australasia/Europe/Adrica, Middle East, Rusia & the Caspian, The Americas	29	People energy	Chart	Business Integrity
41	Contribution to Communities - By Region	\$ million Broken into 5 regions: Rest of Europe/UK/Rest of World/US	31	Local Energy	Chart	Communities/Charitabl e Involvement

#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
		Millions of barrels per year	-			
1	Total Crude Oil Production - per year	&	21	Operational Highlights	Table	Operations
		S millions	-			
2	Total Operating Costs	8	21	Operational Highlights	Table	Financial
100		S per barrel of production				
3	Capital Expenditure	\$ millions	21	Operational Highlights	Table	Financial
4	Revenues	\$ millions	21	Operational Highlights	Table	Financial
5	Retained Earnings		21	Operational Highlights	Table	Financial
6	Bitumen Recovery	%	21	Operational Highlights	Table	Operations
7	Upgrading Yield	96	21	Operational Highlights	Table	Operations
0	Environmental Einer	S millions	21	Operational Highlights	Table	Environmental
•	Environmental Pines	5 millions	21	operational Highlights	Table	Violations/Other
9	Environmental Protection Orders	# of	21	Operational Highlights	Table	Environmental
10	Total Expenditures	\$ millions	26	Economy	Table	Financial
11	Other Expenditures	\$ millions	26	Economy	Table	Financial
	Payroll & Municipal Taxes	S millions	26	Economy	Table	Financial
	Purchased Energy	Ś millions	20	Economy	Table	Financial
	Tatal Paurall	5 millions	20	Economy	Table	Financial
	Total Payroli	\$ millions	26	Economy	Table	Financial
	Materiais & Supplies	\$ millions	26	Economy	Table	Financial
40	Contracted Services	\$ millions	26	Economy	Table	Financial
12	Annual Economic Contributions	\$ millions	26	Economy	Chart	Financial
13	Annual Procurement of Goods & Services	S millions	26	Economy	Chart	Financial
14	2009 Geographic Distribution of Economic Contribution	⁷⁰ Broken out by 6 categories: Aboroginal Community/Municipality of Wood Buffalo/Edmonton Area/Rest of Alberta/Rest of Canada/International	26	Economy	Chart	Financial
15	Annual Royalty Payments	\$ millions	27	Economy	Chart	Financial
16	Cumulative Payments to Governments	\$ millions	27	Economy	Chart	Financial
17	Consultation & Monitoring Funding - By Association/Program	S Displayed for 4 associatons/programs: Wood Buffalo Environmental Association/Regional Aquatics Monitoring Program/Cumulative Environmental Management Association/Direct Consultation	27	Economy	Chart	Communities/Charitabl e Involvement
18	2009 Community Investment - By Category	% Broken out for 6 categories: Arts and Culture/Education/Safety, Health&Envrionment/Civic&Community/Sponsorship/Good Neighbours Grants	35	Community Involvement	Chart	Communities/Charitabl e Involvement
19	Corporate & Employee Contributions to the United Way	\$ Total	35	Community Involvement	Chart	Communities/Charitabl e Involvement
20	Corporate Giving	\$ Total	35	Community Involvement	Table	Communities/Charitabl e Involvement
21	Total Permanent Workforce	#	38	Our People	Table	Employees
22	Permanent Workforce - By age group	%	38	Our People	Table	Employees
23	New Permanent Employees	#	38	Our People	Table	Employees
24	New Permanent Employees - Trades & Operators & Administrative	#	38	Our People	Table	Employees
	New Permanent Employees - technical and professional	#	38	Our People	Table	Employees
25	New Employees - Aboriginal	#	38	Our People	Table	Employees
26	New Employees - Female	#	38	Our People	Table	Employees
27	Job offers accepted	96	38	Our People	Table	Employees

		CONTENT ANALYSIS - SYNCRUDE CANADA LTD.			LOCATION	THEME
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	
28	Local Hires	% of all hires	38	Our People	Table	Employees
29	Job Apllications Received	#	38	Our People	Table	Employees
30	Aboriginal Employees	# and % of total	40	Our People	Table	Employees
31	Aboriginal representation in leadership	96	40	Our People	Table	Employees
32	Female Employees	# and % of total	40	Our People	Table	Employees
33	Female representation in leadership	%	40	Our People	Table	Employees
34	Leadership Completed Diversity Workshops	96	40	Our People	Table	Employees
35	Leaders completed Harassment & Discrimination Workshop	96	40	Our People	Table	Employees
36	Leaders completed Leadership Training	%	40	Our People	Table	Employees
37	Total Attrition	% of workforce	40	Our People	Table	Employees
38	Employee-initiated termination	% of workforce	40	Our People	Table	Employees
39	Retirements	% of workforce	40	Our People	Table	Employees
40	Aboriginal Attrition	% of workforce	40	Our People	Table	Employees
41	Female Attrition	% of workforce	40	Our People	Table	Employees
42	Trade and Operators Attrition	% of workforce	40	Our People	Table	Employees
43	Administrative, professional and technical attrition	% of workforce	40	Our People	Table	Employees
44	Employee & Family Assistance Program (EFAP) Utilization	# of clients as a % of Syncrudes workforce	40	Our People	Table	Employees
45	Training hours per employee	% hours in training per employee per year	40	Our People	Table	Employees
46	Thousand of barrels of Syncrude Oil per employee		40	Our People	Table	Employees
47	Average employee service	years	40	Our People	Table	Employees
48	Recognitions to employees	#	40	Our People	Table	Employees
49	Scholarships & Bursaries - Annual Contribution	s	41	Our People	Table	Employees
50	Employee Student Scholarships (#)	#	41	Our People	Table	Employees
51	Tuition Refunds to Syncrude Employees (#)	#	41	Our People	Table	Employees
53	Workforce Hours - Total	total hours	43	Safety & Health	Chart	Employees
54	Lost-time injury frequency - Total	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
55	Lost-time injury frequency - Contractors	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
56	Lost-time injury frequency - Employees	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
57	Lost-time injuries (#) - Total	#	46	Safety & Health	Table	Health & Safety
58	Lost-time injuries (#) - Contractors	#	46	Safety & Health	Table	Health & Safety
59	Lost-time injuries (#) - Employees	#	46	Safety & Health	Table	Health & Safety
60	Recorable Injury Frequncey - Total	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
61	Recorable Injury Frequncey - Contractors	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
62	Recorable Injury Frequncey - Employees	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
63	Recordable Injuries (#) - Total	#	46	Safety & Health	Table	Health & Safety
64	Recordable Injuries (#) - Contractors	#	46	Safety & Health	Table	Health & Safety
65	Recordable Injuries (#) - Employees	#	46	Safety & Health	Table	Health & Safety
66	Employee Fatalities (#)	#	46	Safety & Health	Table	Health & Safety
67	Contractor Fatalities (#)	#	46	Safety & Health	Table	Health & Safety
68	Injury Severity Rate - Total	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
69	Injury Severity Rate - Contractors	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
70	Injury Severity Rate - Employees	per 100 person-years of work	46	Safety & Health	Table	Health & Safety
71	Injury Free Performance	millions of hours (maximum hours between lost-time injuries)	46	Safety & Health	Table	Health & Safety
72	Temporary Disability Absenteeism	% of workforce	46	Safety & Health	Table	Health & Safety
73	New-long term disability cases	#	46	Safety & Health	Table	Health & Safety

INDUCATION INDUCATION PE a SECTION TITLE UNLOWING Industry 2 Industry Section Struct Sectio		CONTENT ANALYSIS - SYNCRUDE CANADA LTD.				LOCATION	TUENAE
74 Markamar kunis # # 75 Markamar different fearment # Staffy af Markamar Table Markamar 70 Markamar different fearment # Staffy af Markamar Table Markamar 71 Markamar different fearment # Staffy af Markamar Table Markamar 71 Markamar different fearment # Staffy af Markamar Table Markamar 72 Markamar different fearment # Staffy af Markamar Table Markamar 72 Markamar different fearment # Staffy af Markamar Table Markamar 73 Markamar # Staffy af Markamar Table Markamar 74 Markamar # Staffy af Markamar Table Markamar 73 Markamar Table Markamar Table Markamar 74 Markamar Table Markamar Table Markamar 75 Markamar Markamar Table Markamar 76 Markamar Markamar Table Markamar 76 Markamar Markamar Table Markamar 76 Markamar Markamar Table M	#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
37 38 advance 4.0 584 yr, a Marsh Take Mean	74	Health Centre Visits	#	46	Safety & Health	Table	Health & Safety
12 Markers Regressentation loom Managements 1. of unorfforce 1. de laste 1. Statel, Table Nature 1. Statel, 12 Imargency Garve Regressentation loom Managements # 4. de laste 1. Statel, Table Nature 1. Statel, 13 Imargency Garve Regressentation loom Managements # 4. de laste 1. Statel, Table Nature 1. Statel, 13 Imargency Garve Regressentation loom Managements # 4. de laste 1. Statel, Table 4. Math. Managements Nature 1. Statel, 14 Imargency Garve Regressentation de laste 1. Statel, Math. B. Statel, 1. de laste 1. Statel, Nature 1. Statel,	75	Safety and Health Convictions	#	46	Safety & Health	Table	Health & Safety
77 Description Segment - Constre # Mathematical Section - Constre # Addition - Construction - Constructin - Constructin - Constructin - Construction - Construction - Co	76	Workforce Representation in Joint Management Worker Safety & Health Committees	% of workforce	46	Safety & Health	Table	Health & Safety
1 1 1 State Section State Section State Section 1 State Section State Sect	77	Emergency Serive Response - On-site	#	46	Safety & Health	Table	Health & Safety
12 Serie, Math & Environment Sart Complexent Actage Serie, Mathin & Environment Sart Complexent National Control Table National	78	Emergency Serive Response - Off-Site (Mutual Aid Response)	#	46	Safety & Health	Table	Health & Safety
80 700 Land Diturbed-Computing Network 91. Und Redomation Table Land 81 Tempory Land Retained Network Set Privater Set Retained Land Land 81 Ferningen Land Retained Network Set Retained Land Land Land Land 85 Ferningen Land Retained Network Set Retained Tele and Shurb Secting Privater Tele and Shurb Secting Privater Secting Privater Secting Privater Tele and Shurb Secting Privater Secting Privater Tele and Shurb Secting Privater Secting Priva	79	Safety, Health & Environment Staff Complement	#	46	Safety & Health	Table	Health & Safety
1 1 Ind Perlament 5.1 Land Peclamation Table Land 63 Permanent Land Peclamed Paperly available Sill Land Reclamation Table Pand 63 Permanent Land Peclamed Paperly available Sill Land Reclamation Table Pand 64 Tream of Shurb Sassinger Pannes Paperly available Sill Land Reclamation Table Pand	80	Total Land Disturbed - Cumulative	hectares	51	Land Reclamation	Table	Land
13Permanent Land Reclamationhap ber year take51Land ReclamationTableIand13Reclamation ExpendituresS million per year & cumulative51Land ReclamationTableHanacial14Texe and Sub-Secting Partnet	81	Temporary Land Reclaimed	ha per year ha cumulative	51	Land Reclamation	Table	Land
Instrument Similar Section Table Financial Instrument Free and Sub-Secting Planet - pary year Comulative Sin Land Reclamation Table Land Instrument Sin Land Reclamation Table Land Reclamation Table Land Instrument Sin Sin Land Reclamation Table Energy Energy Instrument Sin Land Reclamation Table Energy Energy Instrument Sin Cimate Change Table Energy Instrument Sin Cimate Change Table Energy Instrument Sin Cimate Change Table Energy Instrument Sin Sin Sin Energy Energy Instrument Sin Sin Energy Energy Energy Instrument Sin Sin Energy Energy	83	Permanent Land Reclaimed	ha per year ha cumulative	51	Land Reclamation	Table	Land
66 Tree and Shurb Seadings Planted * - per year & convolative 51 Land Reclamation Table Land 67 greenhouse Gas Emissions - Total 6. Climate Change Table Emission/Air 88 Tetal Energy Consumption billion 9T Use Paral 6.1 Climate Change Table Energy (matching) 98 Energy Intensity million 8T Use Paral 6.1 Climate Change Table Energy (matching) Table Energy (matching) Table Energy (matching) Energy (matching) Table Energy (matching) Table Energy (matching) Energy (matching) Table Energy (matching) Energy (matching) Energy (matching) Energy (matching) Energy (matching) Energy (matching) Table Energy (matching) Energy (matching) Energy (matching) Energy (matching) Table Emission/Air 91 Energy (matching) Energy (matching) Table Emission/Air Emission/Air 92 Dom-depicting Subtances Mogram per year 655 Climate Change Table Emission/Air	85	Reclamation Expenditures	\$ millions per year	51	Land Reclamation	Table	Financial
87 Greenhouse Gas Emissions - Total millions of tonnes tonnas per barrel 60 Climate Change Table Emissions/Air 88 Total Energy Consumption billion BTUs per barrel 61 Climate Change Table Energy 90 Energy Intensity million STUs per barrel 61 Climate Change Table Energy 91 Energy Intensity million STUs per barrel 61 Climate Change Table Energy 92 Energy Intensity (%) STUs contained in Syncrude Crude OII after deducting % BTUs used 61 Climate Change Table Energy 93 Barry Convesion (%) (%) BTUs contained in Syncrude Crude OII after deducting % BTUs used 61 Climate Change Table Ensistons/Air 94 Sulphor Dioxide (%) BTUs contained in Syncrude Crude OII after deducting % BTUs used 61 Climate Change Table Ensistons/Air 95 Norgen Choide (%) BTUs contained in Syncrude Crude OII 65 Climate Change Table Ensistons/Air 96 Norgen Choide (%) contained per year 65 Climate Change Table Ensistons/Air 97 Velatic Orgen of Idea (%) contained per year 65 Climate Change Table Ensistons/Air <t< td=""><td>86</td><td>Tree and Shurb Seedlings Planted</td><td># - per year & cumulative</td><td>51</td><td>Land Reclamation</td><td>Table</td><td>Land</td></t<>	86	Tree and Shurb Seedlings Planted	# - per year & cumulative	51	Land Reclamation	Table	Land
Bit Total Energy Consumption billion BTUs 610 Climate Change Table Energy 99 Energy Intensity million BTUs per barrel 61 Climate Change Table Energy 90 Energy Intensity (inster Change Table Energy 91 Energy Intensity (inster Change Table Energy 91 Energy Convesion (%) (inster Change Table Energy 92 Const-aclpating Substances Majorans per vara 650 Climate Change Table Energy 93 Sulphur Dioxide Toomas per Kibo Sunctude Crude Oli 650 Climate Change Table Ensizions/Air 94 Sulphur Dioxide Toomas per Kibo Sunctude Crude Oli 650 Climate Change Table Ensizions/Air 95 Narregen Oxides Toomas per Kibo Sunctude Crude Oli 650 Climate Change Table Ensizions/Air 95 Narregen Oxides Toomas per Kibo Sunctude Crude Oli 650 Climate Change Table Ensizions/Air 97 Volatile Organic Compounds (VOCs) toomas per Kibo Sunctude Crude Oli 650 Climate Change Table Ensizions/Air 98 NORC Onclines Relasson toomas per Kibo Sunctude Crud	87	Greenhouse Gas Emissions - Total	millions of tonnes & tonnes per barrel	60	Climate Change	Table	Emissions/Air
19 Energy Intensity million BTUs per barrel 6.1 Climate Change Table Energy 0 Energy Intensity Improvement - compared 0 % Compared 2 three baselines: Laste year/1390 baseline/1382 baseline 6.1 Climate Change Table Energy 91 Energy Convesion (%) (%) BTUs contained in Syncrude Crude Oil after deducting % BTUs used to make it 6.1 Climate Change Table Energy 92 Ocone-depleting Subtances Notigaran per year 6.5 Climate Change Table Energy 93 Sulphur Dioxide thousand tonnes per year 6.5 Climate Change Table Emission/Air 94 Sulphur Dioxide Emission Intensity tonnes per KBbis Syncrude Crude Oil 6.5 Climate Change Table Emission/Air 95 Ntrogen Oxides thousand tonnes per year 6.5 Climate Change Table Emission/Air 96 Ntrogen Oxides thousand tonnes per year 6.5 Climate Change Table Emission/Air 97 Voletin Grapanic Compounds (VOC2) thousand tonnes per year 6.5 Climate Change Table Emission/Air 98 VOCE Emission Intensity tonnes per KBbis Syncrude Crude Oil 6.5 Climate Change Table Emi	88	Total Energy Consumption	billion BTUs	61	Climate Change	Table	Energy
90Energy Intensity Improvement - compared to baseline50Cimpare ChangeTableEnergy91Bergy Convesion (%)(%) BTUs contained in Syncrude Crude Oil after deducting % BTUs use to make it to make it baseline61Climate ChangeTableEmissions/Air93Sulphur DioxideHougrams per year65Climate ChangeTableEmissions/Air94Sulphur DioxideHougram per year65Climate ChangeTableEmissions/Air95Nitrogen OxidesHousand tonnes per year65Climate ChangeTableEmissions/Air95Nitrogen OxidesHousand tonnes per year65Climate ChangeTableEmissions/Air96Nitrogen OxidesHousand tonnes per year65Climate ChangeTableEmissions/Air97Volatil Crogenic Compounds (VOC2)Housand tonnes per year65Climate ChangeTableEmissions/Air98VOC Emission Intensitytonnes per KBbis Syncrude Crude Oil65Climate ChangeTableEmissions/Air98VOC Emission Intensitytonnes per KBbis Syncrude Crude Oil65Climate ChangeTableEmissions/Air99NPRI On-site Releasesthousand tonnes per year65Climate ChangeTableEmissions/Air100Sour Gas Flaing/Divertingtonnes per KBbis Syncrude Crude Oil65Climate ChangeTableEmissions/Air101Main Stack Sulphur DioideBoorday roling average 245 tonnes65Climate Change	89	Energy Intensity	million BTUs per barrel	61	Climate Change	Table	Energy
91 Energy Convasion (%) (%) BTU's contained in Syncrude Crude Oil after deducting % BTU's used to make it. 61 Climate Change Table Energy 92 Subpur Dioxide Insiston Table Emission/Air 93 Subpur Dioxide Insiston Intensity Tomes per year 65 Climate Change Table Emission/Air 94 Subpur Dioxide Introson Oxides Tomes per KBbis Syncrude Crude Oil 65 Climate Change Table Emission/Air 95 Nitrogen Oxides Oxides Emission Intensity Tomes per year 65 Climate Change Table Emission/Air 96 Nitrogen Oxides Oxides Emission Intensity Tomes per KBbis Syncrude Crude Oil 65 Climate Change Table Emission/Air 97 Volatile Organic Compounds (VOC3) thousand tonnes per year 65 Climate Change Table Emission/Air 98 NPRI On-site Releases thousand tonnes per year 65 Climate Change Table Emission/Air 100 Sour Gas Flaring/Diverting tonnes per day 502 65 <td>90</td> <td>Energy Intensity Improvement - compared to baseline</td> <td>% Compared 2 three baselines: Laste year/1990 baseline/1982 baseline</td> <td>61</td> <td>Climate Change</td> <td>Table</td> <td>Energy</td>	90	Energy Intensity Improvement - compared to baseline	% Compared 2 three baselines: Laste year/1990 baseline/1982 baseline	61	Climate Change	Table	Energy
92 Ozone-depicting Substances Kilograms per year 65 Climate Change Table Emissions/Air 93 Sulphur Dioxide thousand tonnes per year 65 Climate Change Table Emissions/Air 94 Sulphur Dioxide Emission Intensity tonnes per KBbi Syncrude Crude OII 65 Climate Change Table Emissions/Air 95 Nitrogen Oxides Toole Compounds (VOCs) thousand tonnes per year 65 Climate Change Table Emissions/Air 97 Volatile Organic Compounds (VOCs) thousand tonnes per year 65 Climate Change Table Emissions/Air 98 VOC Emission Intensity tonnes per KBbi Syncrude Crude OII 65 Climate Change Table Emissions/Air 90 NPRI On-site Releases thousand tonnes per year 65 Climate Change Table Emissions/Air 100 Sour Gas Flaring/Diverting tonnes per KBbi Syncrude Crude OII 65 Climate Change Table Emissions/Air 101 Main Stack Sulphur Dioxide thousand tonnes per year 65 Climate Change Table Emissions/Air 102 Main Stack Sulphur Dioxide thousand tonnes per year 65 Climate Change Table Emissions/Air	91	Energy Convesion (%)	(%) BTUs contained in Syncrude Crude Oil after deducting % BTUs used to make it	61	Climate Change	Table	Energy
93 Sulphur Dioxide thousand tonnes per year 65 Climate Change Table Emission/Air 94 Sulphur Dioxide Emission Intensity tomes per KBbis Syncrude Crude Oil 65 Climate Change Table Emission/Air 95 Nitrogen Oxides tonusand tonnes per year 65 Climate Change Table Emission/Air 96 Nitrogen Oxides tonnes per KBbis Syncrude Crude Oil 65 Climate Change Table Emission/Air 97 Volatie Organic Compounds (VOCs) thousand tonnes per year 65 Climate Change Table Emission/Air 98 VIC Emission Intensity tonnes per KBbis Syncrude Crude Oil 65 Climate Change Table Emission/Air 99 NPRI Onsite Releases thousand tonnes per year 65 Climate Change Table Emission/Air 100 Sour Gas Flaring/Diverting tonnes per day SO2 65 Climate Change Table Emission/Air 101 Main Stack Nitrogen Oxides (# of hours > 450 Climate Change Table Emission/Air 102 Main Stack Nitrogen Oxides # of hours > 450 Climate Change Table Emission/Air 103 Diverter Stack Uage hours per year 65 Cl	92	Ozone-depleting Substances	kilograms per year	65	Climate Change	Table	Emissions/Air
94 Sulphur Dioxide Emission Intensity tonnes per KBbi Syncrude Crude Oil 65 Climate Change Table Emission/Air 95 Nitrogen Oxides Emission Intensity tonnes per KBbi Syncrude Crude Oil 65 Climate Change Table Emission/Air 97 Volatile Organic Compounds (VOCs) thousand tonnes per year 65 Climate Change Table Emission/Air 98 VOC Emission Intensity tonnes per KBbi Syncrude Crude Oil 65 Climate Change Table Emission/Air 99 NPRI On-site Releases tonnes per KBbi Syncrude Crude Oil 65 Climate Change Table Emissions/Air 100 Sour Gas Flaring/Diverting tonnes per year 65 Climate Change Table Emissions/Air 101 Main Stack Sulphur Dioxide Hours greater than 16.4 tonnes per hour 65 Climate Change Table Emissions/Air 102 Main Stack Nitrogen Oxides (# of hours > 40%) Sour greater than 16.4 tonnes per Nour 65 Climate Change Table Emissions/Air 103 Diverter Stack Uzage hours per year 65 Climate Change Table Emissions/Air 103 Diverter Stack Opacity # of hours > 40%) 65 Climate Change Table </td <td>93</td> <td>Sulphur Dioxide</td> <td>thousand tonnes per year</td> <td>65</td> <td>Climate Change</td> <td>Table</td> <td>Emissions/Air</td>	93	Sulphur Dioxide	thousand tonnes per year	65	Climate Change	Table	Emissions/Air
95 Nitrogen Oxides thousand tonnes per year 65 Climate Change Table Emission/Air 96 Nitrogen Oxides Emission Intensity tonnes per KBbls Syncrude Crude Oli 65 Climate Change Table Emission/Air 97 Volatile Organic Compounds (VOCs) thousand tonnes per year 65 Climate Change Table Emission/Air 98 VOC Emission Intensity tonnes per KBbls Syncrude Crude Oli 65 Climate Change Table Emission/Air 109 NPRI On-site Releases thousand tonnes per year 65 Climate Change Table Emission/Air 100 Sour Gas Flaring/Diverting tonnes per day SO2 65 Climate Change Table Emission/Air 101 Main Stack Sulphur Dioxide Hoursg reater than 16.4 tonnes per hour 65 Climate Change Table Emission/Air 100 Main Stack Nitrogen Oxides (# of hours > 1.5 tonnes per hour) 65 Climate Change Table Emission/Air 102 Main Stack Nitrogen Oxides (# of hours > 40%) 65 Climate Change Table Emission/Air 102 Main Stack Opacity # of hours > 40%) 65 Climate Change Table Emissions/Air 1010 Doverter	94	Sulphur Dioxide Emission Intensity	tonnes per KBbls Syncrude Crude Oil	65	Climate Change	Table	Emissions/Air
96 Nitrogen Oxides Emission Intensity tonnes per KBbis Syncrude Crude Oil 65 Climate Change Table Emissions/Air 97 Volatile Organic Compounds (VOCs) thousand tonnes per year 65 Climate Change Table Emissions/Air 98 VOC Emission Intensity tonnes per KBbis Syncrude Crude Oil 65 Climate Change Table Emissions/Air 99 NPRI On-site Releases thousand tonnes per year 65 Climate Change Table Emissions/Air 100 Sour Gas Flaring/Diverting tonnes per day SO2 65 Climate Change Table Emissions/Air 101 Main Stack Sulphur Dioxide 40-day rolling average > 245 tonnes 65 Climate Change Table Emissions/Air 102 Main Stack Nitrogen Oxides (# of hours > 1.5 tonnes per hour) 65 Climate Change Table Emissions/Air 103 Diverter Stack Usage hours per year 655 Climate Change Table Emissions/Air 103 Main Stack Opacity # of hours > 1.5 tonnes per hour) 655 Climate Change Table Emissions/Air 103 Diverter Stack Usage hours > 2.9 tonnes 655 Climate Change Table Emissions/Air 104 <	95	Nitrogen Oxides	thousand tonnes per year	65	Climate Change	Table	Emissions/Air
97 Volatile Organic Compounds (VOCs) thousand tonnes per year 65 Climate Change Table Emissions/Air 98 VOC Emission Intensity tonnes per KBbls Syncrude Crude Oil 65 Climate Change Table Emissions/Air 99 NPRI On-site Releases thousand tonnes per year 65 Climate Change Table Emissions/Air 100 Sour Gas Flaring/Diverting tonnes per day SQ2 65 Climate Change Table Emissions/Air 101 Main Stack Sulphur Dioxide Hours greater than 16.4 tonnes per hour 90-day rolling average > 245 tonnes 65 Climate Change Table Emissions/Air 102 Main Stack Sulphur Dioxide (# of hours > 1.5 tonnes per hour) 665 Climate Change Table Emissions/Air 103 Diverter Stack Usage hours per year 65 Climate Change Table Emissions/Air 104 Main Stack Opacity # of hours > 40%) 65 Climate Change Table Emissions/Air 103 Diverter Stack Usage hours per year 65 Climate Change Table Emissions/Air 104 Main Stack Opacity # of hours > 40%) 65 Climate Change Table Emissions/Air 105 Ambient Air	96	Nitrogen Oxides Emission Intensity	tonnes per KBbls Syncrude Crude Oil	65	Climate Change	Table	Emissions/Air
98 VOC Emission Intensity tonnes per KBbis Syncrude Crude Oil 65 Climate Change Table Emissions/Air 99 NPRI On-site Releases thousand tonnes per year 65 Climate Change Table Table Finizions/Air 100 Sour Gas Flaring/Diverting tonnes per day SO2 65 Climate Change Table Emissions/Air 101 Main Stack Sulphur Dioxide Hours greater than 16.4 tonnes per hour 65 Climate Change Table Emissions/Air 102 Main Stack Sulphur Dioxide Hours greater than 16.4 tonnes per hour 65 Climate Change Table Emissions/Air 103 Diverter Stack Uzage hours per year 65 Climate Change Table Emissions/Air 103 Diverter Stack Uzage hours per year 65 Climate Change Table Emissions/Air 104 Main Stack Opacity # of hours > 40% 65 Climate Change Table Emissions/Air 104 Main Stack Opacity # of hours > 40% 65 Climate Change Table Emissions/Air 105 Ambient Air Exceedances - H ₂ S hourly & 24-hour period 65 Climate Change Table Emissions/Air 105 Ambient Air Exceedances - SQ_	97	Volatile Organic Compounds (VOCs)	thousand tonnes per year	65	Climate Change	Table	Emissions/Air
99 NPRI On-site Releases thousand tonnes per year 65 Climate Change Table Univormental Violation/Other 100 Sour Gas Flaring/Diverting tonnes per day SO2 65 Climate Change Table Emissions/Air 101 Main Stack Sulphur Dioxide 90-day rolling average > 245 tonnes 65 Climate Change Table Emissions/Air 102 Main Stack Nitrogen Oxides (# of hours > 1.5 tonnes per hour) 65 Climate Change Table Emissions/Air 103 Diverter Stack Usage hours per year 65 Climate Change Table Emissions/Air 103 Diverter Stack Usage hours per year 65 Climate Change Table Emissions/Air 104 Main Stack Opacity # of hours > 40% 65 Climate Change Table Emissions/Air 104 Main Stack Opacity # of hours > 40% 65 Climate Change Table Emissions/Air 105 Ambient Air Exceedances - H ₂ S hourly & 24-hour period 65 Climate Change Table Emissions/Air 105 Ambient Air Exceedances - SO ₂ hourly & 24-hour period 65 Climate Change Table Emissions/Air 107 Odour Incidents (%) of totali i	98	VOC Emission Intensity	tonnes per KBbls Syncrude Crude Oil	65	Climate Change	Table	Emissions/Air
100Sour Gas Flaring/Divertingtonnes per day SQ265Climate ChangeTableEmissions/Air101Main Stack Sulphur Dioxide90-day rolling average > 245 tonnes65Climate ChangeTableEmissions/Air102Main Stack Nitrogen Oxides(# of hours > 1.5 tonnes per hour)65Climate ChangeTableEmissions/Air103Diverter Stack Usagehours per year65Climate ChangeTableEmissions/Air103Diverter Stack Usagehours per year65Climate ChangeTableEmissions/Air104Main Stack Opacity# of hours > 40%)655Climate ChangeTableEmissions/Air105Ambient Air Exceedances - H ₂ Shourly & 24-hour period65Climate ChangeTableEmissions/Air106Ambient Air Exceedances - SO2hourly & 24-hour period65Climate ChangeTableEmissions/Air107Odour Incidents# attributable (%) of total incidents65Climate ChangeTableEmissions/Air109Water Imported from Athabasca Rivermillions of cubic metres per cubic metres Ser year a k69Water ManagementTableWater110Treated Waster Water Discharged to Athabasca River - Otherthousands of cubic metres69Water ManagementTableWater	99	NPRI On-site Releases	thousand tonnes per year	65	Climate Change	Table	Violations/Other
101Main Stack Sulphur DioxideHours greater than 16.4 tonnes per hour 90-day rolling average > 245 tonnes per hour65Climate ChangeTableEmissions/Air102Main Stack Nitrogen Oxides(# of hours > 1.5 tonnes per hour)65Climate ChangeTableEmissions/Air103Diverter Stack Usagehours per year65Climate ChangeTableEmissions/Air104Main Stack Opacity# of hours > 4.5 tonnes per hour)65Climate ChangeTableEmissions/Air104Main Stack Opacity# of hours > 4.0%)65Climate ChangeTableEmissions/Air105Ambient Air Exceedances - H ₂ Shourly & 24-hour period65Climate ChangeTableEmissions/Air106Ambient Air Exceedances - SO ₂ hourly & 24-hour period65Climate ChangeTableEmissions/Air107Odour Incidents# attributable (%) of total incidents65Climate ChangeTableEmissions/Air109Water Imported from Athabasca River&# attributable (%) of cubic metres per vear a cubic metres per cubic metres Syncrude Crude Oil produced69Water ManagementTableWater110Treated Waste Water Discharged to Athabasca River - Sanitarythousands of cubic metres69Water ManagementTableWater120Treated Waste Water Discharged to Athabasca River - Otherthousands of cubic metres69Water ManagementTableWater</td><td>100</td><td>Sour Gas Flaring/Diverting</td><td>tonnes per day SO2</td><td>65</td><td>Climate Change</td><td>Table</td><td>Emissions/Air</td></tr><tr><td>102 Main Stack Nitrogen Oxides (# of hours > 1.5 tonnes per hour) 65 Climate Change Table Emissions/Air 103 Diverter Stack Usage hours per year 65 Climate Change Table Emissions/Air 104 Main Stack Opacity # of hours > 40%) 65 Climate Change Table Emissions/Air 105 Ambient Air Exceedances - H₂S hourly & 24-hour period 65 Climate Change Table Emissions/Air 106 Ambient Air Exceedances - SO2 hourly & 24-hour period 65 Climate Change Table Emissions/Air 107 Odour Incidents # attributable (%) of total incidents 65 Climate Change Table Emissions/Air 109 Water Imported from Athabasca River River - Sanitary # attributable (%) of total incidents 65 Climate Change Table Water 110 Treated Waste Water Discharged to Athabasca River - Other thousands of cubic metres 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Other thousands of cubic metres 69 Water Management Table Water</td><td>101</td><td>Main Stack Sulphur Dioxide</td><td>Hours greater than 16.4 tonnes per hour 90-day rolling average > 245 tonnes</td><td>65</td><td>Climate Change</td><td>Table</td><td>Emissions/Air</td></tr><tr><td>103Diverter Stack Usagehours per year65Climate ChangeTableEmissions/Air104Main Stack Opacity# of hours > 40%)65Climate ChangeTableEmissions/Air105Ambient Air Exceedances - H_2Shourly & 24-hour period65Climate ChangeTableEmissions/Air106Ambient Air Exceedances - SO2hourly & 24-hour period65Climate ChangeTableEmissions/Air106Ambient Air Exceedances - SO2hourly & 24-hour period65Climate ChangeTableEmissions/Air107Odour Incidents# attributable (%) of total incidents65Climate ChangeTableEmissions/Air109Water Imported from Athabasca River# attributable (cubic metres per cubic metres Syncrude Crude Oil produced69Water ManagementTableWater110Treated Waste Water Discharged to Athabasca River - Otherthousands of cubic metres69Water ManagementTableWater</td><td>102</td><td>Main Stack Nitrogen Oxides</td><td>(# of hours > 1.5 tonnes per hour)</td><td>65</td><td>Climate Change</td><td>Table</td><td>Emissions/Air</td></tr><tr><td>104 Main Stack Opacity # of hours > 40%) 65 Climate Change Table Emissions/Air 105 Ambient Air Exceedances - H₂S hourly & 24-hour period 65 Climate Change Table Emissions/Air 106 Ambient Air Exceedances - SO₂ hourly & 24-hour period 65 Climate Change Table Emissions/Air 106 Ambient Air Exceedances - SO₂ hourly & 24-hour period 65 Climate Change Table Emissions/Air 107 Odour Incidents # attributable (%) of total incidents 65 Climate Change Table Emissions/Air 109 Water Imported from Athabasca River # attributable (water Change 65 Climate Change Table Water 101 Treated Waste Water Discharged to Athabasca River - Sanitary thousands of cubic metres 69 Water Management Table Water 108 Treated Waste Water Discharged to Athabasca River - Other thousands of cubic metres 69 Water Management Table Water</td><td>103</td><td>Diverter Stack Usage</td><td>hours per year</td><td>65</td><td>Climate Change</td><td>Table</td><td>Emissions/Air</td></tr><tr><td>105 Ambient Air Exceedances - H₂S hourly & 24-hour period 65 Climate Change Table Emissions/Air 106 Ambient Air Exceedances - SO₂ hourly & 24-hour period 65 Climate Change Table Emissions/Air 107 Odour Incidents # attributable (%) of total incidents 65 Climate Change Table Emissions/Air 109 Water Imported from Athabasca River River - Sanitary # attributable willions of cubic metres per cubic metre Syncrude Crude Oil produced 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Other thousands of cubic metres 69 Water Management Table Water</td><td>104</td><td>Main Stack Opacity</td><td># of hours > 40%)</td><td>65</td><td>Climate Change</td><td>Table</td><td>Emissions/Air</td></tr><tr><td>106 Ambient Air Exceedances - SO2 hourly & 24-hour period 65 Climate Change Table Emissions/Air 107 Odour Incidents # attributable (%) of total incidents 65 Climate Change Table Emissions/Air 109 Water Imported from Athabasca River # attributable (%) of total incidents 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Sanitary thousands of cubic metres 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Other thousands of cubic metres 69 Water Management Table Water</td><td>105</td><td>Ambient Air Exceedances - H₂S</td><td>hourly & 24-hour period</td><td>65</td><td>Climate Change</td><td>Table</td><td>Emissions/Air</td></tr><tr><td>107 Odour Incidents # attributable (%) of total incidents 65 Climate Change Table Emissions/Air 109 Water Imported from Athabasca River % millions of cubic metres per year 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Sanitary thousands of cubic metres 69 Water Management Table Water 12 Treated Waste Water Discharged to Athabasca River - Other thousands of cubic metres 69 Water Management Table Water</td><td>106</td><td>Ambient Air Exceedances - SO₂</td><td>hourly & 24-hour period</td><td>65</td><td>Climate Change</td><td>Table</td><td>Emissions/Air</td></tr><tr><td>109 Water Imported from Athabasca River millions of cubic metres per year & 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Sanitary thousands of cubic metres 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Sanitary thousands of cubic metres 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Other thousands of cubic metres 69 Water Management Table Water</td><td>107</td><td>Odour Incidents</td><td># attributable (%) of total incidents</td><td>65</td><td>Climate Change</td><td>Table</td><td>Emissions/Air</td></tr><tr><td>110 Treated Waste Water Discharged to Athabasca River - Sanitary thousands of cubic metres 69 Water Management Table Water 110 Treated Waste Water Discharged to Athabasca River - Other thousands of cubic metres 69 Water Management Table Water</td><td>109</td><td>Water Imported from Athabasca River</td><td>millions of cubic metres per year & cubic metres per cubic metre Syncrude Crude Oil produced</td><td>69</td><td>Water Management</td><td>Table</td><td>Water</td></tr><tr><td>Treated Waste Water Discharged to Athabasca River - Other 69 Water Management 7able Water</td><td>110</td><td>Treated Waste Water Discharged to Athabasca River - Sanitary</td><td>thousands of cubic metres</td><td>69</td><td>Water Management</td><td>Table</td><td>Water</td></tr><tr><td></td><td></td><td>Treated Waste Water Discharged to Athabasca River - Other</td><td>thousands of cubic metres</td><td>69</td><td>Water Management</td><td>Table</td><td>Water</td></tr></tbody></table>							

	CONTENT ANALYSIS - SYNCRUDE CANADA LTD.				LOCATION	TUEAC
*	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
111	Process Water Recycled	Millions of cubic metres per year & Recycled as % of total water used	69	Water Management	Table	Water
112	Water Diversion/Return	millions of cubic metres	69	Water Management	Table	Water
113	Water Discharge Quality Exceedances - Sanitary	#	69	Water Management	Table	Water
	Water Discharge Quality Exceedances - Industrial Process	#	69	Water Management	Table	Water
114	Reportable Spills to Natural Water Bodies	cubic metres	69	Water Management	Table	Water
115	Major Waste Recycled or Reused—Solid	tonnes	71	Waste Management	Table	Waste
116	Minor Waste Recycled or Reused—Solid	tonnes	71	Waste Management	Table	Waste
117	Major Waste Recycled or Reused—Liquid	cubic metres	71	Waste Management	Table	Waste
118	Solid Hazardous or Potentially Hazardous Materials Sent for Off-site Treatment or Destruction	cubic metres	71	Waste Management	Table	Waste
119	Liquid Hazardous or Potentially Hazardous Material Sent for Off-site Treatment or Destruction	cubic metres	71	Waste Management	Table	Waste
120	Waste Disposal—On-site Industrial, Non- hazardous	tonnes	71	Waste Management	Table	Waste
121	Waste Disposal—On-site Sanitary, Non- hazardous	tonnes	71	Waste Management	Table	Waste

	CONTENT ANALYSIS - TOTAL E&P CANADA LTD.		LOCATION	TUENAE		
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
1	Greenhouse gas emissions - By Business	96	13	Climate Impacts	Chart	Emissions/Air
2	Greenhouse gas emissions Total - By Source	96	13	Climate Impacts	Chart	Emissions/Air
3	Greenhouse gas emissions Total - By Type	96	13	Climate Impacts	Chart	Emissions/Air
4	Long-term hires - By region	% Broken into 7 Regions: Europe Excluding France/South America/North America/Africa/Asia/Metropolitan France/Other	26	Social Responsibility	Chart	Employees
5	Sites presenting technological risks with SMS's (Safety Management System) audited using recognized protocols	%	30	Safety	Chart	Operations
6	Fatal accidents by cause over five years	96	31	Safety	Chart	Health & Safety
7	Patrom Deployment	96	33	Safety	Chart	Health & Safety
8	Cases handled by the Ethics Committee	#	36	Ethics	Chart	Business Integrity
9	Visits to Total's dedicated ethics intranet	#	39	Ethics	Chart	Business Integrity
10	Sales	€M	70	Performance Indicators	Indicator Summary Sheet	Operations
11	Adjusted operating income from business segments	€M	70	Performance Indicators	Indicator Summary Sheet	Financial
12	Adjusted net operating income from business segments	€M	70	Performance Indicators	Indicator Summary Sheet	Financial
13	Adjusted net income (Group share)	€M	70	Performance Indicators	Indicator Summary Sheet	Financial
14	Adjusted fully-diluted earnings per share	£	70	Performance Indicators	Indicator Summary Sheet	Financial
15	Dividend per share	£	70	Performance Indicators	Indicator Summary Sheet	Financial
16	Net debt-to-equity	96	70	Performance Indicators	Indicator Summary Sheet	Financial
17	Return on Average Capital Employed (ROACE)	96	70	Performance Indicators	Indicator Summary Sheet	Financial
18	Return on equity	96	70	Performance Indicators	Indicator Summary Sheet	Financial
19	Cash flow from operating activities	€M	70	Performance Indicators	Indicator Summary Sheet	Financial
20	Capital expenditure	€M	70	Performance Indicators	Indicator Summary Sheet	Financial
21	Divestitures at selling price	€M	70	Performance Indicators	Indicator Summary Sheet	Financial
22	Operated sites	#	70	Performance Indicators	Indicator Summary Sheet	Operations
23	Sites that responded to the environmental reporting questionnaire	96	70	Performance Indicators	Indicator Summary Sheet	Environmental Violations/Other
24	ISO 14001-certified sites - Total	#	70	Performance Indicators	Indicator Summary Sheet	Operations
25	ISO 14001-certified sites - By business area	# Reported for 3 business areas: Upstream/Downstream/Chemicals	70	Performance Indicators	Indicator Summary Sheet	Operations
26	ISO 14001-certified environmentally sensitive sites	96	70	Performance Indicators	Indicator Summary Sheet	Operations
27	Six greenhouse gases - Total	MTCDE/year	70	Performance Indicators	Indicator Summary Sheet	Emissions/Air
28	Six greenhouse gases - By business area	MTCDE/year Reported for 3 business areas: Upstream/Downstream/Chemicals	70	Performance Indicators	Indicator Summary Sheet	Emissions/Air
29	Primary energy consumption - Total	MGJ/year	70	Performance Indicators	Indicator Summary Sheet	Energy
30	Primary energy consumption - By business area	MGJ/year Reported for 3 business areas: Upstream/Downstream/Chemicals	70	Performance Indicators	Indicator Summary Sheet	Energy
31	Flaring and venting	metric ktoe/year	70	Performance Indicators	Indicator Summary Sheet	Emissions/Air
32	SO ₂ emissions - Total	metric ktons/year	71	Performance Indicators	Indicator Summary Sheet	Emissions/Air
33	SO ₂ emissions - By Business Area	metric ktons/year Reported for 3 business areas: Upstream/Downstream/Chemicals	71	Performance Indicators	Indicator Summary Sheet	Emissions/Air
34	NO _x emissions - Total	metric ktons/year	71	Performance Indicators	Indicator Summary Sheet	Emissions/Air

			100171011			
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
35	NO _x emissions - By Business Area	metric ktons/year Reported for 3 business areas: Upstream/Downstream/Chemicals	71	Performance Indicators	Indicator Summary Sheet	Emissions/Air
36	Non-methane VOC emissions - Total	metric ktons/year	71	Performance Indicators	Indicator Summary Sheet	Emissions/Air
37	Non-methane VOC emissions - By Business Area	metric ktons/year Reported for 3 business areas: Upstream/Downstream/Chemicals	71	Performance Indicators	Indicator Summary Sheet	Emissions/Air
38	Freshwater withdrawal (excluding once-through cooling water)	Mcu. m/year	71	Performance Indicators	Indicator Summary Sheet	Water
39	Discharges (excluding once-through cooling water)	Mcu. m/year	71	Performance Indicators	Indicator Summary Sheet	Water
40	Hydrocarbon discharges in effluent - Total	metric tons/year	71	Performance Indicators	Indicator Summary Sheet	Water
41	Hydrocarbon discharges in effluent - By business area	metric tons/year Reported for 3 business areas: Upstream/Downstream&Chemicals/Exploration&Production	71	Performance Indicators	Indicator Summary Sheet	Water
42	Suspended solids discharges	metric tons/year	71	Performance Indicators	Indicator Summary Sheet	Water
43	Chemical oxygen demand (COD)	metric tons/year	71	Performance Indicators	Indicator Summary Sheet	Water
45	Hazardous waste production (treated offsite) from routine operations - Total	metric ktons/year	71	Performance Indicators	Indicator Summary Sheet	Waste
46	Hazardous waste production (treated offsite) from routine operations - By Business Area	metric ktons/year Reported for 3 business areas: Upstream/Downstream/Chemicals	71	Performance Indicators	Indicator Summary Sheet	Waste
47	Special waste	metric ktons/year	71	Performance Indicators	Indicator Summary Sheet	Waste
48	Oil spills - Total	#	71	Performance Indicators	Indicator Summary Sheet	Land
49	Oil spills Volume - Total	cubic meters	71	Performance Indicators	Indicator Summary Sheet	Land
50	Oil spills - Volume - by business area	cubic meters	71	Performance Indicators	Indicator Summary Sheet	Land
51	Workforce - Total	#	72	Performance Indicators	Indicator Summary Sheet	Employees
52	Workforce - By Region	# Broken into 7 regions: France/Europe Excluding France/Africa/North America/South America/Asia/Other	72	Performance Indicators	Indicator Summary Sheet	Employees
53	Workforce - Managers	#	72	Performance Indicators	Indicator Summary Sheet	Employees
	Workforce - Non Managers	#	72	Performance Indicators	Indicator Summary Sheet	Employees
	Workforce - Senior Executives	#	72	Performance Indicators	Indicator Summary Sheet	Employees
54	Workforce - By Age Bracket	96	72	Performance Indicators	Indicator Summary Sheet	Employees
55	Permanent hires - By Region	96	72	Performance Indicators	Indicator Summary Sheet	Employees
56	Percentage women in total workforce	96	73	Performance Indicators	Indicator Summary Sheet	Employees
57	Percentage women managers	96	73	Performance Indicators	Indicator Summary Sheet	Employees
58	Percentage women senior executives	96	73	Performance Indicators	Indicator Summary Sheet	Employees
59	Percentage women in permanent hires	96	73	Performance Indicators	Indicator Summary Sheet	Employees
60	Percentage women in permanent manager hires	96	73	Performance Indicators	Indicator Summary Sheet	Employees
61	Percentage non-French nationals in workforce	96	73	Performance Indicators	Indicator Summary Sheet	Employees
62	Percentage non-French nationals - managers	96	73	Performance Indicators	Indicator Summary Sheet	Employees
63	Percentage non-French nationals permanent hires	96	73	Performance Indicators	Indicator Summary Sheet	Employees
64	Percentage non-French nationals permanent contract manager hires	96	73	Performance Indicators	Indicator Summary Sheet	Employees
65	Nationalities represented at Total	#	73	Performance Indicators	Indicator Summary Sheet	Employees
66	Percentage Group companies that offer employees regular medical checkups	96	73	Performance Indicators	Indicator Summary Sheet	Health & Safety

	CONTENT ANALYSIS - TOTAL E&P CANADA LTD.		LOCATION	TUENE		
Ŧ	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
67	Employees who can opt to work part time	96	73	Performance Indicators	Indicator Summary Sheet	Employees
68	Employees with death benefi ts > 200% of gross salary	96	73	Performance Indicators	Indicator Summary Sheet	Employees
69	Percentage companies with employee representation	96	73	Performance Indicators	Indicator Summary Sheet	Employees
70	Employees Covered by a collective bargaining agreement	% and #	73	Performance Indicators	Indicator Summary Sheet	Employees
72	Percentage Group companies with an annual performance review system - Total		73	Performance Indicators	Indicator Summary Sheet	Employees
73	Percentage Group companies with an annual performance review system - For Managers	96	73	Performance Indicators	Indicator Summary Sheet	Employees
74	Percentage Group companies with an annual performance review system - For Non-Managers	96	73	Performance Indicators	Indicator Summary Sheet	Employees
75	Average length of time in a position - By brackets	% 5 brakets: less than 3 years/3-5 years/6-8 years/more than 8 years/average	73	Performance Indicators	Indicator Summary Sheet	Employees
76	Lost time injury rate - Total	per million hours worked by Total and contractor employees	74	Performance Indicators	Indicator Summary Sheet	Health & Safety
77	Lost time injury rate - By Business Area	per million hours worked by Total and contractor employees Broken out by 4 business areas: Exploration & Production/Gas & Power/Refining & Marketing/Chemicals	74	Performance Indicators	Indicator Summary Sheet	Health & Safety
78	Total recordable injury rate - Total	per million hours worked by Total and contractor employees	74	Performance Indicators	Indicator Summary Sheet	Health & Safety
79	Total recordable injury rate - By business are	per million hours worked by Total and contractor employees Broken out by 4 business areas: Exploration & Production/Gas & Power/Refining & Marketing/Chemicals	74	Performance Indicators	Indicator Summary Sheet	Health & Safety
80	Fatalities	#	74	Performance Indicators	Indicator Summary Sheet	Health & Safety
81	Fatalities Frequency - Total	per million hours worked by Total and contractor employees	74	Performance Indicators	Indicator Summary Sheet	Health & Safety
82	Community development spending	€M	74	Performance Indicators	Indicator Summary Sheet	Communities/Charitabl e Involvement
83	Community development spending in non-OECD countries	96	74	Performance Indicators	Indicator Summary Sheet	Communities/Charitabl e Involvement
84	Number of initiatives - Community	#	74	Performance Indicators	Indicator Summary Sheet	Communities/Charitabl e Involvement
85	Total Foundation + corporate philanthropy spending	€M	74	Performance Indicators	Indicator Summary Sheet	Communities/Charitabl e Involvement
86	French Community Development Fund for Youth	€M	74	Performance Indicators	Indicator Summary Sheet	Communities/Charitabl e Involvement

#	CONTENT ANALYSIS - TECK RESOURCES LTD.		LOCATION	THEME		
	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
1	Global Workforce - Total	#	35	Employee Practices	Table	Employees
2	Global Workforce - Broken out by Business Area	# Broken into 6 business areas: Coal/Copper/Corporate/Gold/Technology/Sinc	35	Employee Practices	Table	Employees
3	Percentage of women in the workforce - By Operation	Broken into 13 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Pend Oreille Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Onerations	36	Diversity & Equal Opportunity	Table	Employees
4	Percentage of Women in Management, Governance, Professional and Administrative Positions	% by type	37	Diversity & Equal Opportunity	Table	Employees
5	Employee Turnover Number by Age and Gender	# and %	38	Diversity & Equal Opportunity	Table	Employees
6	Number of Employees Covered by Bargaining Agreements - By Operation	# and % Broken into 10 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Elkview Operations/Fording River Operations/Highland Valley Copper/Line Creek Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Onerations	40	Labour/Management Relations	Table	Employees
7	Significant Environmental Incidents in 2009	#	42	Environment	Table	Environmental Violations/Other
8	PM-10 Emissions - By Operation	tonnes Broken into 12 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Operations	44	Environment	Table	Emissions/Air
9	PM-2.5 Emissions - By Operation	tonnes Broken into 12 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Operations	44	Environment	Table	Emissions/Air
10	SO _x Emissions	tonnes Broken into 12 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Operations	44	Environment	Table	Emissions/Air
11	NO _x Emissions	tonnes Broken into 12 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Operations	44	Environment	Table	Emissions/Air

1	CONTENT ANALYSIS - TECK RESOURCES LTD.				100171011	TUENE
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
12	Carbon Monoxide (CO) Emissions	tonnes Broken into 12 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Operations	44	Environment	Table	Emissions/Air
13	VOC Emissions	tonnes Broken into 12 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Operations	44	Environment	Table	Emissions/Air
14	Mercury (Hg) Emissions	tonnes Broken into 12 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Operations	44	Environment	Table	Emissions/Air
15	Changes in Energy Use 2008 – 2009 (TJ)	TeraJoules (TJ)	46	Environment	Chart	Energy
16	Changes in Direct GHG Emissions 2008–2009 (CO ₂ equivalent kt)	CO ₂ equivalent kt	47	Environment	Chart	Emissions/Air
17	Direct GHG Emissions - By Operation	CO2 equivalent kt Broken into 13 operations: Cardinal River Operations/Carmen de Andacollo/Coal Mountain Operations/Duck Pond Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Highland Valley Copper/Line Creek Operations/Pend Oreille Operations/Quebrada Blanca Operations/Red Dog Operations/Trail Operations	48	Environment	Chart	Emissions/Air
18	Carbon Intensity in Product (t/tonne) (Direct Emissions) - By Operation	(t/tonne) (Direct Emissions) Broken into 12 operations: Trail Operations/Highland Valley Cooper/Cardinal River Operations/Coal Mountain Operations/Elkview Operations/Fording River Operations/Greenhills Operations/Line Creek Operations/Duck Pond Operations/Red Dog Operations/Carmen de Andacollo/Quebrada Blanca	49	Environment	Table	Emissions/Air
19	Carbon Intensity in Materials Moved (t/tonne) (Total Scope 1 and Scope 2 Emissions) - By Operation	t/tonne Broken into 11 operations: Highland Valley Copper/Cardinal River Operations/Coal Mountain Operations/Elkview Operations/Fording River Operations/Greenhills Operation/Line Creek Operations/Duck Pond Operations/Red Dog Operations/Carmen de Andacollo/Ouebrada Blanca	50	Environment	Table	Emissions/Air
20	Revenue	Cdn\$ in millions	66	Distribution of Economic Costs/Benefits	Table	Financial
21	Operating Costs	Cdn\$ in millions	66	Distribution of Economic Costs/Benefits	Table	Financial
22	Dividends paid per statement of cash flows	CdnS in millions	66	Distribution of Economic Costs/Benefits	Table	Financial
23	Interest paid	CdnS in millions	66	Distribution of Economic Costs/Benefits	Table	Financial
24	Taxes paid (recovered)	CdnS in millions	66	Distribution of Economic Costs/Benefits	Table	Financial
26	Fonomic Value Distributed	Can's in millions	66	Distribution of Economic Costs/Benefits	Table	Financial
27	conomic value netameu	CdnS in millions	66	Distribution of Economic Costs/benefits	Table	rinancial
28	Income and Resource Taxes Paid - By Country	Broken into 3 countries: Canada/US/Peru/Chile	67	Distribution of Economic Costs/Benefits	Table	Financial

		CONTENT ANALYSIS - TECK RESOURCES LTD.			LOCATION	TUENE
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
29	Indigenous Peoples in the Workforce - By Operation	# and % Broken into 2 operations: Highland Valley/Red Dog Operations	75	Indigenous Peoples	Table	Employees
30	Incidents in 2009 Affecting Employees, Communities or the Environment Which Required the Activation of Broad Emergency Preparedness Procedures	#	78	Involvine People Affected by Our Activities	Table	Business Integrity
31	Community Investment (CADS)	Cad S	83	Performance Overview	Indicator Summary Sheet	Communities/Charitabl e Involvement
32	Local Procurement - Percent of Spending on Local Suppliers (%)	96	83	Performance Overview	Indicator Summary Sheet	Financial
33	Total Recordable Injury Frequency (TRIF)	Frequency based on 200,000 hrs worked	83	Performance Overview	Indicator Summary Sheet	Health & Safety
34	Fatalities	#	83	Performance Overview	Indicator Summary Sheet	Health & Safety
35	Lost Time Injury (LTI)	#	83	Performance Overview	Indicator Summary Sheet	Health & Safety
36	LTI Frequency (LTIF)	Frequency based on 200,000 hrs worked	83	Performance Overview	Indicator Summary Sheet	Health & Safety
37	Incident Severity	days lost due to injuries based on 200,000 hrs worked	83	Performance Overview	Indicator Summary Sheet	Health & Safety
38	Energy Use - Fuel	L	83	Performance Overview	Indicator Summary Sheet	Energy
39	Energy Use - Electricity	L1	83	Performance Overview	Indicator Summary Sheet	Energy
40	Total Energy Use	נד.	83	Performance Overview	Indicator Summary Sheet	Energy
41	CO2 _e - Direct	(kt)	83	Performance Overview	Indicator Summary Sheet	Emissions/Air
42	CO2 _e - Indirect	(kt)	83	Performance Overview	Indicator Summary Sheet	Emissions/Air
43	CO2 _e - Total	(kt)	83	Performance Overview	Indicator Summary Sheet	Emissions/Air
44	Waste rock	(kt)	83	Performance Overview	Indicator Summary Sheet	Land
45	Tailings - Dry	(kt)	83	Performance Overview	Indicator Summary Sheet	Land
46	Permit Non-compliance	#	83	Performance Overview	Indicator Summary Sheet	Environmental Violations/Other
47	Regulatory Non-compliance	#	83	Performance Overview	Indicator Summary Sheet	Environmental Violations/Other
48	Number of spills	#	83	Performance Overview	Indicator Summary Sheet	Land
49	Volume of spills	L	83	Performance Overview	Indicator Summary Sheet	Land
50	Weight of spills	kg	83	Performance Overview	Indicator Summary Sheet	Land
51	Land Reclaimed	ha per year Cumulative	83	Performance Overview	Indicator Summary Sheet	Land
53	Total land disturbed	ha	83	Performance Overview	Indicator Summary Sheet	Land
54	Land reclaimed / land to be reclaimed (%)	96	83	Performance Overview	Indicator Summary Sheet	Land
55	Hazardous Waste sent off site but not recycled	(t)	83	Performance Overview	Indicator Summary Sheet	Waste
56	Hazardous Waste treated/disposed of on-site	(t)	83	Performance Overview	Indicator Summary Sheet	Waste
57	Hazardous Waste recycled	(t)	83	Performance Overview	Indicator Summary Sheet	Waste
58	Non-Hazardous Waste sent off site but not recycled	(t)	83	Performance Overview	Indicator Summary Sheet	Waste
59	Non-Hazardous Waste treated/disposed of on- site (t)	(t)	83	Performance Overview	Indicator Summary Sheet	Waste
60	Non-Hazardous Waste recycled	(t)	83	Performance Overview	Indicator Summary Sheet	Waste
61	Groundwater withdrawal	m ³	83	Performance Overview	Indicator Summary Sheet	Water
62	Surface water withdrawal	m ³	83	Performance Overview	Indicator Summary Sheet	Water
63	Other water withdrawal	m ³	83	Performance Overview	Indicator Summary Sheet	Water
64	Water recycled/reused	m ³ and %	83	Performance Overview	Indicator Summary Sheet	Water

Appendix 2: 2014 Raw Data Spreadsheets

	CONTENT ANALYSIS - CENOVUS				LOCATION	THEAT
	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LUCATION	THEIVIE
1	Business Conduct Investigations	#	12	Corporate Governance & Business Practices	Table	Business Integrity
2	Number of Integrity Helpline Intakes	#	12	Corporate Governance & Business Practices	Table	Business Integrity
3	Total Recordable Injury Frequency - Workforce	per 200,000 hours worked	15	People	Chart	Health & Safety
4	Lost Time Injury Frequency - Workforce	per 200,000 hours worked	15	People	Chart	Health & Safety
5	Total Workforce	#	17	People	Chart	Employees
6	Total Employees	#	17	People	Chart	Employees
7	Total Contractors	#	17	People	Chart	Employees
8	Employees - Field	96	17	People	Chart	Employees
	Employees - Office	96	17	People	Chart	Employees
9	Gender breakdown of employees - Field	#	18	People	Chart	Employees
	Gender breakdown of employees - Office	#	18	People	Chart	Employees
10	Employees - By Age Bracket	# 9 age brackets	18	People	Chart	Employees
11	Voluntary employee turnover	96	19	People	Chart	Employees
12	Direct GHG Emissions - Total	Kilotonnes CO2E	25	Environmental Performance	Chart	Emissions/Air
13	Direct GHG Emissions - By Operation	Kilotonnes CO2E Broken into 1 operation: Oil Sands	25	Environmental Performance	Chart	Emissions/Air
14	Direct GHG Emissions Intensity - Total	Tonnes CO2E/m ³ OE	25	Environmental Performance	Chart	Emissions/Air
15	Direct GHG Emissions Intensity - By Operation	Tonnes CO2E/m ³ OE Broken into 1 operation: Oil Sands	25	Environmental Performance	Chart	Emissions/Air
16	Energy Use - Total	Millions of Gj	26	Environmental Performance	Chart	Energy
17	Energy Use - By Operation	Millions of Gj Broken into 1 operation: Oil Sands	26	Environmental Performance	Chart	Energy
18	Energy Intensity - Total	Gj/m ³ OE	26	Environmental Performance	Chart	Energy
19	Energy Intensity - By Operation	Gj/m ³ OE Broken into 1 operation: Oil Sands	26	Environmental Performance	Chart	Energy
20	Cumulative mass of CO ₂ stored	Kilotonnes CO ₂	27	Environmental Performance	Chart	Emissions/Air
21	Steam to oil ratio (SOR) - By Operation	m ³ of steam used to produce m ³ of oil Broken into 2 operations: Foster Creek/Christina Lake	27	Environmental Performance	Chart	Emissions/Air
22	NO _x Emissions	Tonnes	28	Environmental Performance	Chart	Emissions/Air
23	NO _x Intensity	Tonnes/thousand m ³ OE	28	Environmental Performance	Chart	Emissions/Air
24	NO _x Emissions - By Operation	Tonnes Broken out for 1 operation: Christina Lake phase C,D and E	28	Environmental Performance	Chart	Emissions/Air
25	SO ₂ Emissions	Tonnes	29	Environmental Performance	Chart	Emissions/Air
26	SO ₂ Emissions intensity	Tonnes/thousand m ³ OE	29	Environmental Performance	Chart	Emissions/Air
27	Total gas flared	Thousands m ³	29	Environmental Performance	Chart	Emissions/Air
28	Total gas vented	Thousands m ³	30	Environmental Performance	Chart	Emissions/Air
29	Fresh water use - Total	mbbls	32	Environmental Performance	Chart	Water
30	Fresh water use - By Operation	mbbls Broken out for 1 operation: Oil Sands	32	Environmental Performance	Chart	Water
31	Saline water use	mbbls	32	Environmental Performance	Chart	Water
32	Saline water use - By Operation	mbbls Broken out for 1 operation: Oil Sands	32	Environmental Performance	Chart	Water
33	Fresh Water Use Intensity - Total	bbls/BOE	33	Environmental Performance	Chart	Water
34	Fresh Water Use Intensity - By Operation	bbls/BOE Broken out for 1 operation: Oil Sands	33	Environmental Performance	Chart	Water
35	Saline Water Use Intensity - Total	bbls/BOE	33	Environmental Performance	Chart	Water

		CONTENT ANALYSIS - CENOVUS					
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE	
36	Saline Water Use Intensity - By Operation	bbls/BOE Broken out for 1 operation: Oil Sands	33	Environmental Performance	Chart	Water	
37	Reportable Spills - Total	#	34	Environmental Performance	Chart	Land	
38	Reportable Spills - By Operation	# Broken out for 1 operation: Oil Sands	34	Environmental Performance	Chart	Land	
39	Estimated Reportable Volume Spilled - Total	bbls	34	Environmental Performance	Chart	Land	
40	Estimated Reportable Volume Spilled - By Operation	bbls Broken out for 1 operation: Oil Sands	34	Environmental Performance	Chart	Land	
41	Aboriginal Business Spending	\$ millions and % total company spend	39	Stakeholder & Aboriginal Engagement	Chart	Aboriginals	
42	2013 Community Investment Program Core Focus Areas	% Sustainable Communities vs. Safety & Wellbeing vs. Learning	40	Community Involvement & Investment	Chart	Communities/Charitable Involvement	
44	Capital Expenditures	\$ (millions)	45	Contributing to the Economy	Table	Financial	
45	Procurement of goods & services from Aboriginal businesses	\$ (millions)	45	Contributing to the Economy	Table	Aboriginals	
46	Gross employee salaries, bonuses & short-term benefits	\$ (millions)	45	Contributing to the Economy	Table	Financial	
47	Secondary & other post-employment costs	\$ (millions)	45	Contributing to the Economy	Table	Financial	
48	Interest Expense	\$ (millions)	45	Contributing to the Economy	Table	Financial	
49	Current income tax expense	\$ (millions)	45	Contributing to the Economy	Table	Financial	
50	Dividends	\$ (millions)	45	Contributing to the Economy	Table	Financial	
51	Royalties	\$ (millions)	45	Contributing to the Economy	Table	Financial	
52	Community Investment	\$ (millions)	45	Contributing to the Economy	Table	Communities/Charitable Involvement	

#		CONTENT ANALYSIS - NEXEN				
#	INDICATOR	MEASUREMENT UNITS/AREA	PG #	SECTION TITLE	LOCATION	THEIVIE
1	Capital Expenditure	CAD \$ Billions	4	Our Canadian Operations: Driving Economic Growth	Chart	Financial
2	Total Royalties & Income Taxes for Canadian Operations	CAD \$ Millions	4	Our Canadian Operations: Driving Economic Growth	Chart	Financial
3	Canadian Jobs	#	4	Our Canadian Operations: Driving Economic Growth	Chart	Employees
4	Total Recordable Injury Frequency (TRIF) - Workforce	per 200,000 hours worked	5	Safety First: A Core Value	Chart	Health & Safety
5	Lost Time Injury Frequency (LTIF) - Workforce	per 200,000 hours worked	5	Safety First: A Core Value	Chart	Health & Safety
6	CO2 Equivalent Emissions - Canada	million tonnes t CO2/m3OE	6	Environment	Table	Emissions/Air
8	Environmental Regulatory or Permit Violations - Total	#	7	Environment	Table	Environmental Violations/Other
9	Environmental Regulatory or Permit Violations - By Business Area	# Broken out for 3 business areas: Canadian Gas & Operational Services & Technology/Marketing/Oil Sands	7	Environment	Table	Environmental Violations/Other
10	Number of Spills - Total	#	7	Environment	Table	Land
11	Number of Spills - By Business Area	# Broken out for 2 business areas: Canadian Gas & Operational Services & Technology/Oil Sands	7	Environment	Table	Land
12	Volume Released	m ³	7	Environment	Table	Land
13	Volume Released - By Business Area	m ³ Broken out for 2 business areas: Canadian Gas & Operational Services & Technology/Oil Sands	7	Environment	Table	Land

		LOCUTION	THEAT			
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
1	Lost Time Injury Frequency - Workforce	injuries per 200,000 hours worked	7	Health & Safety	Chart	Health & Safety
2	Research & Development Investment	\$ millions	14	Research and Development	Chart	Financial
3	Employees - Total	#	29	Performance Scorecard	Indicator Summary Sheet	Employees
4	Employees - By Business Area	# Broken out by 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	29	Performance Scorecard	Indicator Summary Sheet	Employees
5	Exposure Hours - Total	millions (Broken out by North American Exploration & Production, Horizon Oil Sands and International Operations)	29	Performance Scorecard	Indicator Summary Sheet	Health & Safety
6	Exposure Hours - By Business Area	millions Broken out by 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	29	Performance Scorecard	Indicator Summary Sheet	Health & Safety
7	Recordable Injury Frequency - Workforce - By Business Area	Per 200,000 hours worked - employees and contractors Broken out by 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	29	Performance Scorecard	Indicator Summary Sheet	Health & Safety
8	Fatalities - Employees - By Business Area	# Broken out by 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	29	Performance Scorecard	Indicator Summary Sheet	Health & Safety
9	Fatalities - Contractors - By Business Area	# Broken out by 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	29	Performance Scorecard	Indicator Summary Sheet	Health & Safety
10	Brackish, non-potable Water Withdrawal - By Business Area	m ^a Broken out by 2 business areas: North American Exploration & Production/Horizon Oil Sands	29	Performance Scorecard	Indicator Summary Sheet	Water
11	Fresh Water Withdrawal - By Business Area	m ³ Broken out by 2 business areas: North American Exploration & Production/Horizon Oil Sands	29	Performance Scorecard	Indicator Summary Sheet	Water
12	Total Water Discharge - By Operation	tonnes Broken out by 2 operations: International exploration and production - North Sea & Offshore Africa	29	Performance Scorecard	Indicator Summary Sheet	Water
13	Oil Water Content - By Operation	mg/l Broken out by 2 operations: International exploration and production - North Sea & Offshore Africa	29	Performance Scorecard	Indicator Summary Sheet	Water
14	Active Operated Wells	#	30	Performance Scorecard	Indicator Summary Sheet	Land
15	Inactive Operated Wells	#	30	Performance Scorecard	Indicator Summary Sheet	Land
16	Wells Abandoned	#	30	Performance Scorecard	Indicator Summary Sheet	Land
17	Reclamation Certificates Submitted	#	30	Performance Scorecard	Indicator Summary Sheet	Land
18	Reportable Spills - By Business Area	# Broken out for 2 business areas: North American Exploration & Production/Horizon Oil Sands	30	Performance Scorecard	Indicator Summary Sheet	Land
19	Reportable Volume Spilled - By Business Area	m [®] Broken out for 2 business areas: North American Exploration & Production/Horizon Oil Sands	30	Performance Scorecard	Indicator Summary Sheet	Land
20	Spills and leaks/production - By Business Area	MMBOE Broken out for 2 business areas: North American Exploration & Production/Horizon Oil Sands	30	Performance Scorecard	Indicator Summary Sheet	Land
21	Volume Spilled or leaked/production - By Business Area	m ³ /MMBOE Broken out for 2 business areas: North American Exploration & Production/Horizon Oil Sands	30	Performance Scorecard	Indicator Summary Sheet	Land
22	Leaks/1,000 km pipeline - By Business Area	# Broken out for 1 business areas: North American Exploration & Production	30	Performance Scorecard	Indicator Summary Sheet	Operations

	CONTENT ANALYSIS - CANADIAN NATURAL RESOURCES					TUENE
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LUCATION	INCIVIE
23	Weight of Hazardous Waste By Business Area	tonnes Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	30	Performance Scorecard	Indicator Summary Sheet	Waste
24	Weight of Non-Hazardous Waste - By Business Area	tonnes Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	30	Performance Scorecard	Indicator Summary Sheet	Waste
25	Direct GHG Emissions from Fuel Consumption - By Business Area	million tonnes CO ₂ E Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	31	Performance Scorecard	Indicator Summary Sheet	Emissions/Air
26	Indirect GHG Emissions - By Business Area	million tonnes CO ₂ E Broken out for 2 business areas: North American Exploration & Production/Horizon Oil Sands	31	Performance Scorecard	Indicator Summary Sheet	Emissions/Air
27	Electricity Consumption - By Business Area	TWh Broken out for 2 business areas: North American Exploration & Production/Horizon Oil Sands	31	Performance Scorecard	Indicator Summary Sheet	Energy
28	Direct GHG Emissions - By Business Area	million tonnes Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	31	Performance Scorecard	Indicator Summary Sheet	Emissions/Air
29	Direct GHG Emissions Intensity - By Business Area	tonnes CO2E/BOE Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	31	Performance Scorecard	Indicator Summary Sheet	Emissions/Air
30	Total Gas Flared - By Business Area	10°m ⁴ Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	31	Performance Scorecard	Indicator Summary Sheet	Emissions/Air
31	Total Gas Vented - By Business Area	10 ³ m ³ Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	31	Performance Scorecard	Indicator Summary Sheet	Emissions/Air
32	NO _x Emissions - By Business Area	tonnes Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	31	Performance Scorecard	Indicator Summary Sheet	Emissions/Air
33	SO _x Emissions - By Business Area	tonnes Broken out for 3 business areas: North American Exploration & Production/Horizon Oil Sands/International Operations	31	Performance Scorecard	Indicator Summary Sheet	Emissions/Air
		LOCATION	THENAL			
----	---	--	--------	------------------	----------------------------	-----------------------------------
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
1	Fatalities - Workforce	#	9	Performance Data	Indicator Summary Sheet	Health & Safety
2	Lost-time incident frequency - Employees	per 200,000 hours worked	9	Performance Data	Indicator Summary Sheet	Health & Safety
3	Lost-time incident frequency - Contractors	per 200,000 hours worked	9	Performance Data	Indicator Summary Sheet	Health & Safety
4	Total recordable Incident frequency - Employees	per 200,000 hpurs worked	9	Performance Data	Indicator Summary Sheet	Health & Safety
5	Total recordable Incident frequency - Contractors	per 200,000 hpurs worked	9	Performance Data	Indicator Summary Sheet	Health & Safety
6	Sulphur Dioxide (SO ₂) Emissions	thousand tonnes/year	9	Performance Data	Indicator Summary Sheet	Emissions/Air
7	Nitrogen Oxide (NO _x) Emissions	thousand tonnes/year	9	Performance Data	Indicator Summary Sheet	Emissions/Air
8	Volatile Organic Compounds (VOCs)	thousand tonnes/year	9	Performance Data	Indicator Summary Sheet	Emissions/Air
9	Gas flaring from oil production	million cubic feet per day	9	Performance Data	Indicator Summary Sheet	Emissions/Air
10	Solution gas recovery from oil production	% of total solution gas produced	9	Performance Data	Indicator Summary Sheet	Emissions/Air
11	Freshwater Consumption	millions of barrels (mbbls)	9	Performance Data	Indicator Summary Sheet	Water
12	Freshwater use - By Operation	cubic metres of fresh water per cubic metre of bitumen produced Reported for 1 Operation: Cold Lake	9	Performance Data	Indicator Summary Sheet	Water
13	Energy Use - Total	million gigajoules	9	Performance Data	Indicator Summary Sheet	Energy
14	Oil & Chemical Spills	Total # of spills	9	Performance Data	Indicator Summary Sheet	Land
15	Volume - Oil & Chemical Spills	Barrels	9	Performance Data	Indicator Summary Sheet	Land
16	Hazardous Waste	thousand tonnes	9	Performance Data	Indicator Summary Sheet	Waste
17	Number of environmental regulatory compliance incidents	#	9	Performance Data	Indicator Summary Sheet	Environmental Violations/Other
18	Number of environmental exceedance incidents	#	9	Performance Data	Indicator Summary Sheet	Environmental Violations/Other
19	Environmental fines & penalties	thousands of dollars	9	Performance Data	Indicator Summary Sheet	Environmental Violations/Other
20	Environmental Expenditures	millions of dollars	9	Performance Data	Indicator Summary Sheet	Financial
21	Greenhouse gas (GHG) direct emissions - excluding Cogeneration	million tonnes of CO2e	9	Performance Data	Indicator Summary Sheet	Emissions/Air
22	GHG direct emissions - Cogeneration	million tonnes of CO2e	9	Performance Data	Indicator Summary Sheet	Emissions/Air
23	GHG indirect emissions	million tonnes of CO2e	9	Performance Data	Indicator Summary Sheet	Emissions/Air
24	GHG Emissions - Total	million tonnes of CO2e	9	Performance Data	Indicator Summary Sheet	Emissions/Air
25	GHG emission intensity - By Business Area	Reported for 2 business areas: Upstream (tonnes of CO2e per barrel of oil equivalent produced)/Downstream and Chemicals (tonnes of CO2e per unit of normalized throughput)	9	Performance Data	Indicator Summary Sheet	Emissions/Air

4	CONTENT ANALYSIS - IMPERIAL OIL					THENAE	
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIME	
26	Fuels refining energy intensity	normalized index	9	Performance Data	Indicator Summary Sheet	Energy	
27	Hydrocarbon flaring - company total	hundred tonnes	9	Performance Data	Indicator Summary Sheet	Emissions/Air	
28	Gross crude oil & NGL production	thousands of barrels a day	9	Performance Data	Indicator Summary Sheet	Operations	
29	Gross natural gas production	millions of cubic feet a day	9	Performance Data	Indicator Summary Sheet	Operations	
30	Capital & Exploration Expenditures	millions of dollars	9	Performance Data	Indicator Summary Sheet	Financial	
31	Payments for goods & services	billions of dollars, aproximate	9	Performance Data	Indicator Summary Sheet	Financial	
32	Spending with Aboriginal Businesses	millions of dollars Direct & Subcontracted	9	Performance Data	Indicator Summary Sheet	Aboriginals	
33	Taxes & royalties to government	billions of dollars	9	Performance Data	Indicator Summary Sheet	Financial	
34	Wages & benefits	billions of dollars	9	Performance Data	Indicator Summary Sheet	Financial	
35	Education assistance program	thousands of dollars	9	Performance Data	Indicator Summary Sheet	Employees	
36	Scholarship for employee dependants	millions of dollars	9	Performance Data	Indicator Summary Sheet	Employees	
37	Number of regular employees at year end	#	9	Performance Data	Indicator Summary Sheet	Employees	
38	Percentage of women at year end	%	9	Performance Data	Indicator Summary Sheet	Employees	
39	Percentage of visible minorities at year end	%	9	Performance Data	Indicator Summary Sheet	Employees	
40	Percentage of Aboriginal Peoples at year end	%	9	Performance Data	Indicator Summary Sheet	Employees	
41	Percentage of persons with disabilities	%	9	Performance Data	Indicator Summary Sheet	Employees	
42	Volunteer hours	thousands of hours	9	Performance Data	Indicator Summary Sheet	Communities/Charitable Involvement	
43	Community Investment	millions of dollars	9	Performance Data	Indicator Summary Sheet	Communities/Charitable Involvement	
44	Contributions to United Way - Centraide campaigns	millions of dollars	9	Performance Data	Indicator Summary Sheet	Communities/Charitable Involvement	
45	Corporate political contributions	thousands of dollars	9	Performance Data	Indicator Summary Sheet	Financial	
46	Common shares outstanding	millions of shares	9	Performance Data	Indicator Summary Sheet	Financial	
47	Dividends	millions of dollars	9	Performance Data	Indicator Summary Sheet	Financial	

		CONTENT ANALYSIS - SUNCOR ENERGY				THENAE
Ħ	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
1	Air Emissions (includes S0 ₂ , NO _x , VOC) - Total	thousands tonnes/year	6	Performance at a Glance	Chart	Emissions/Air
2	Air Emissions (includes SO2, NOx, VOC) - By Operation	thousands tonnes/year Broken out for 6 operations: Oil Sands/In Situ/North America Onshore/East Coast Canada/Refining & Marketing/St. Claire Ethanol Plant	6	Performance at a Glance	Chart	Emissions/Air
3	Water Withdrawal	million m ³	6	Performance at a Glance	Chart	Water
4	Water Consumption	million m ³	6	Performance at a Glance	Chart	Water
5	Land Disturbed - By Operation	cumulative hectares Broken out for 1 operation: Oil Sands	6	Performance at a Glance	Chart	Land
6	Land Reclaimed - By Operation	cumulative hectares & percent Broken out for 1 operation: Oil Sands	6	Performance at a Glance	Chart	Land
7	Lost Time Injury Frequency - Employees	injuries per 200,000 hours worked	7	Performance at a Glance	Chart	Health & Safety
8	Lost Time Injury Frequency - Contractors	injuries per 200,000 hours worked	7	Performance at a Glance	Chart	Health & Safety
9	Production Volumes - By Operation	thousands of boe/day Broken out for 3 operations: Suncor Oil Sands Operations/Syncrude (non-operated)/Exploration&Production)	7	Performance at a Glance	Chart	Operations
10	Installed Wind Capacity	megawatts	7	Performance at a Glance	Chart	Energy
11	Absolute GHG Emissions - Total	thousand tonnes CO ₂ equivalents (CO ₂ e)	18	2013 Greenhouse Gas Performance	Chart	Emissions/Air
12	Absolute GHG Emissions - By Business Area	thousand tonnes CO₂ equivalents (CO₂e) Broken out for 7 business areas: Oil Sands/Fort Hills/In Situ/Exploration&Production/Refining&Marketing/Renewables	18	2013 Greenhouse Gas Performance	Chart	Emissions/Air
13	Suncor-Wide GHG Emissions Intensity	tonnes CO2e/cubic metre of oil equivalent (m ³ OE) Broken out for 7 business areas: Oil Sands/Fort Hills/In Situ/Exploration&Production/Refining&Marketing/Renewables	19	2013 Greenhouse Gas Performance	Chart	Emissions/Air

		CONTENT ANALYSIS - SHELL CANADA			LOCATION	THEME
	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
1	Exposure hours	millions	65	Performance Report Data	Indicator Summary Sheet	Health & Safety
2	Total recordable cases	#	65	Performance Report Data	Indicator Summary Sheet	Health & Safety
3	Total recordable case frequency	rate of recordable injuries that required medical attention per one million exposure hours worked	65	Performance Report Data	Indicator Summary Sheet	Health & Safety
4	Lost time injuries	#	65	Performance Report Data	Indicator Summary Sheet	Health & Safety
5	Lost time injury frequency	rate of recordable injuries requiring time off work per one million exposure hours worked	65	Performance Report Data	Indicator Summary Sheet	Health & Safety
6	Total direct emissions	Mt CO2e	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
7	Total indirect emissions	Mt CO2e	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
8	Total emissions	Mt CO2e	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
9	Total CO2e intensity	kg CO2e/bbl	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
10	Total CO2e intensity – Excluding construction emissions	kg CO2e/bbl	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
11	Total CO2e intensity including offsets	kg/bbl	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
12	Total CO2e intensity including offsets – Excluding	ke/bbl	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
	construction emissions	NA 602-				
13	Total direct emissions - By Operation	NT CO2e Reported for 4 operations: In Situ/Scotford Upgrader/Jackpine/Muskeg River Mines	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
14	Total indirect emissions - By Operation	Mt CO2e Reported for 4 operations: In Situ/Scotford Upgrader/Jackpine/Muskeg River Mines	65	Performance Report Data	Indicator Summary Sheet	Emissions/Air
15	Total water use - By Operation	million m ⁴ Reported for 2 operation: Scotford Upgrader/Muskeg River Mine and Jackpine Mine	66	Performance Report Data	Indicator Summary Sheet	Water
16	Net fresh water consumption -By Operation	million m ³ & % Reported for 1 operation: Scotford Upgrader	66	Performance Report Data	Indicator Summary Sheet	Water
17	Total effluent treated and returned to the river - By Operation	million m ³ & % Reported for 1 operation: Scotford Upgrader	66	Performance Report Data	Indicator Summary Sheet	Water
19	Fresh water intensity - By Operation	bbl water consumed/bbl MRM and JPM bitumen Reported for 2 operation: Scotford Upgrader/In Situ	66	Performance Report Data	Indicator Summary Sheet	Water
20	Total freshwater consumption - By Operation	million m ³ Reported for 3 operation:Muskeg River Mine/Jackpine Mine/In Situ % Reported for 2 operations: Muskeg River Mine/Jackpine Mine	66	Performance Report Data	Indicator Summary Sheet	Water
21	Mine recycle water use - By Operation	million m ³ Reported for 2 operation:Muskeg River Mine/Jackpine Mine	66	Performance Report Data	Indicator Summary Sheet	Water
22	Athabasca River water withdrawal/Consumed - By Operation	million m ³ & % Reported for 2 operation:Muskeg River Mine/Jackpine Mine	66	Performance Report Data	Indicator Summary Sheet	Water
23	Groundwater and surface runoff consumption - By Operation	million m ³ & % Reported for 2 operation:Muskeg River Mine/Jackpine Mine	66	Performance Report Data	Indicator Summary Sheet	Water
25	Percentage recycled pond water - By Operation	% Reported for 2 operation:Muskeg River Mine/Jackpine Mine	66	Performance Report Data	Indicator Summary Sheet	Water
28	Athabasca River water intensity - By Operation	bbl river water/bbl bitumen Reported for 2 operation:Muskeg River Mine/Jackpine Mine	66	Performance Report Data	Indicator Summary Sheet	Water
29	Fluid fine tailings - By Operation	Mm ³ Reported for 2 operation:Muskeg River Mine/Jackpine Mine	67	Performance Report Data	Indicator Summary Sheet	Land
30	Fines capture - By Operation	Mm ³ Reported for 2 operation:Muskeg River Mine/Jackpine Mine	67	Performance Report Data	Indicator Summary Sheet	Land
31	Total active footprint – mine + plant size - By Operation	Ha Reported for 2 operation:Muskeg River Mine/Jackpine Mine	67	Performance Report Data	Indicator Summary Sheet	Land
32	Permanent reclamation - By Operation	Ha Reported for 2 operation:Muskeg River Mine/Jackpine Mine	67	Performance Report Data	Indicator Summary Sheet	Land

#			THEME				
"	INDICATOR	MEASUREMENT UNITS PG # SECTION TITLE			LOCATION		
33	Temporary reclamation - By Operation	Ha Reported for 2 operation:Muskeg River Mine/Jackpine Mine	67	Performance Report Data	Indicator Summary Sheet	Land	
34	Social investment spend	millions	67	Performance Report Data	Indicator Summary Sheet	Communities/Charitable Involvement	
35	Aboriginal spend	millions	67	Performance Report Data	Indicator Summary Sheet	Aboriginals	

#		CONTENT ANALYSIS - CONOCOPHILLIPS				THEME
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	
1	Injuries - Workforce	#		Safety Performance	Chart	Health & Safety
2	Total Recordable Rate - Workforce			Safety Performance	Chart	Health & Safety
3	High Impact Vehicle Incidents	#		Safety Performance	Table	Health & Safety
4	Absolute Greenhouse Gas Emissions - Total	Direct CO ₂ e Emissions (KT)		Greenhouse Gas Emissions Performance	Chart	Emissions/Air
5	Greenhouse Gas Emissions Intensity - Total	Direct CO ₂ e Intensity (kg/E3m ³ OE)		Greenhouse Gas Emissions Performance	Chart	Emissions/Air
6	Produced Water Use - Total	m ³		Our Water Performance	Chart	Water
7	Non Saline Groundwater Use - Total	m ³		Our Water Performance	Chart	Water
8	Surface Water Use - Total	m ³		Our Water Performance	Chart	Water
9	Saline Groundwater Use - Total	m ³		Our Water Performance	Chart	Water
10	Produced Water Use - By Region	m ³ Broken out for one regions: Western Canda		Our Water Performance	Chart	Water
11	Non Saline Groundwater Use - By Region	m ³ Broken out for one regions: Western Canda		Our Water Performance	Chart	Water
12	Surface Water Use - By Region	m ³ Broken out for one regions: Western Canda		Our Water Performance	Chart	Water
13	Saline Groundwater Use - By Region	m ³ Broken out for one regions: Western Canda		Our Water Performance	Chart	Water
14	Produced Water Use - By Operation	m ³ Broken out for one operation: Oil Sands		Our Water Performance	Chart	Water
15	Non Saline Groundwater Use - By Operation	m ³ Broken out for one operation: Oil Sands		Our Water Performance	Chart	Water
16	Surface Water Use - By Operation	m ³ Broken out for one operation: Oil Sands		Our Water Performance	Chart	Water
17	Footprint - By Operation	Ha Broken out for one project: Surmont Pilot, S1 & S2)		Footprint Management	Chart	Land
18	Faster Forest Cumulative - Sites	# (ConocoPhillips & All Companies)		Footprint Management	Chart	Land
19	Faster Forest Cumulative - Trees Planted	# (ConocoPhillips & All Companies)		Footprint Management	Chart	Land
20	Aboroginal Spending - By Category	\$ millions Broken out by 2 catgeories: Aboriginal-owned businesses/Aboriginal join ventures		Aboriginal Peoples	Table	Aboriginals

# CONTENT ANALYSIS - BP CANADA			THEME				
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE	
1	Fatalities - Employees	#	8	BP in figures	Indicator Summary Sheet	Health & Safety	
2	Fatalities - Contractors	#	8	BP in figures	Indicator Summary Sheet	Health & Safety	
3	Days away from work cases - workforce	#	8	BP in figures	Indicator Summary Sheet	Health & Safety	
4	Days away from work case frequency (DAWFCF) - Workforce	Per 200,000 hours worked	8	BP in figures	Indicator Summary Sheet	Health & Safety	
5	Recordable Injuries - Workforce	#	8	BP in figures	Indicator Summary Sheet	Health & Safety	
6	Recordable Injury Frequency (RIF) - Workforce	Per 200,000 hours worked	8	BP in figures	Indicator Summary Sheet	Health & Safety	
7	Hours Worked - Employees	million hours	8	BP in figures	Indicator Summary Sheet	Employees	
8	Hours Worked - Contractors	#	8	BP in figures	Indicator Summary Sheet	Employees	
9	Losses of primary containment	#	8	BP in figures	Indicator Summary Sheet	Land	
10	Tier 1 process safety events	#	8	BP in figures	Indicator Summary Sheet	Health & Safety	
11	Tier 2 process safety events	#	8	BP in figures	Indicator Summary Sheet	Health & Safety	
12	Oil Spills (>= one barrel)	#	8	BP in figures	Indicator Summary Sheet	Land	
13	Volume of Oil Spilled (>= one barrel)	million litres	8	BP in figures	Indicator Summary Sheet	Land	
14	Oil spills – to land and water (>= one barrel)	#	8	BP in figures	Indicator Summary Sheet	Land	
15	Volume of Oil Unrecovered	million litres	8	BP in figures	Indicator Summary Sheet	Land	
16	Direct carbon dioxide (CO2)	Million tonnes (Mte)	8	BP in figures	Indicator Summary Sheet	Emissions/Air	
17	Direct methane	Mte	8	BP in figures	Indicator Summary Sheet	Emissions/Air	
18	Direct greenhouse gas (GHG)	(mte CO2 equivalent (CO2e))	8	BP in figures	Indicator Summary Sheet	Emissions/Air	
19	Indirect carbon dioxide (CO2)	Mte	8	BP in figures	Indicator Summary Sheet	Emissions/Air	
20	Customer emissions	(mteCO2)	8	BP in figures	Indicator Summary Sheet	Emissions/Air	
20		(thousand tonnes (kte) of hydrocarbons)	0		indicator summary sheet	Emissions/An	
21	Flaring - By Business Area	Reported for 1 business area: Upstream	8	BP in figures	Indicator Summary Sheet	Emissions/Air	
22	Environmental expenditure	\$ million	8	BP in figures	Indicator Summary Sheet	Financial	
23	Environmental and safety fines	\$ million	8	BP in figures	Indicator Summary Sheet	Environmental Violations/Other	
24	Number of employees – group	#	8	BP in figures	Indicator Summary Sheet	Employees	
25	Number of employees – group leadership	#	8	BP in figures	Indicator Summary Sheet	Employees	
26	Women in group leadership	%	8	BP in figures	Indicator Summary Sheet	Employees	
27	Women at management level	%	8	BP in figures	Indicator Summary Sheet	Employees	
28	People from UK and US racial minorities in group leadership	%	8	BP in figures	Indicator Summary Sheet	Employees	
29	People from beyond the UK and US in group leadership	%	8	BP in figures	Indicator Summary Sheet	Employees	
30	Employee turnover	%	8	BP in figures	Indicator Summary Sheet	Employees	
31	OpenTalk cases	#	8	BP in figures	Indicator Summary Sheet	Business Integrity	
32	Dismissals for non-compliance and unethical behaviour	#	8	BP in figures	Indicator Summary Sheet	Employees	
33	Benefits to employees – including wages, salaries, share-based payments, benefits and pensions	\$ million	8	BP in figures	Indicator Summary Sheet	Financial	
34	Total hydrocarbons produced	(thousand barrels of oil equivalent (mboe) per day)	8	BP in figures	Indicator Summary Sheet	Operations	
35	Reserves replacement ratio	%	8	BP in figures	Indicator Summary Sheet	Operations	
36	Total refinery throughputs	(thousand barrels per day (mb/d))	8	BP in figures	Indicator Summary Sheet	Operations	
37	Total petrochemicals production	(thousand tonnes (kte))	8	BP in figures	Indicator Summary Sheet	Operations	
38	Replacement cost profit (loss)	\$ million	8	BP in figures	Indicator Summary Sheet	Operations	
39	Taxes to governments – comprising income taxes and production taxes paid	\$ million	8	BP in figures	Indicator Summary Sheet	Financial	
40	Dividends paid to shareholders	\$ million	8	BP in figures	Indicator Summary Sheet	Financial	

#		CONTENT ANALYSIS - BP CANADA					
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION		
41	Contribution to communities	\$ million	8	BP in figures	Indicator Summary Sheet	Communities/Charit able Involvement	
42	Group Priorities Index	%	9	Overview	Chart	Employees	
43	BP's Payments related to Gulf Coast Recovery	\$	10	Update on the Gluf	Table	Environmental Violations/Other	
44	Energy consumption by fuel	billion tonnes of oil equivalent Broken out by 6 types: Renewables/Hydro/Nuclear/Coal/Gas/Oil	13	The Energy Future	Chart	Energy	
45	Employees - By segment	# Broken into 4 segments: Upstream/Downstream/Other Businesses & Corporate/Gulf Coast Restoration Organization	21	Our People	Chart	Employees	
46	BP Employees - By Region	# Broken into 7 regions: Europe/US&Canada/Asia/South & Central America/Middle East, North Africa/Sub-Saharan Africa/Russia	21	Our People	Chart	Employees	
47	Severe vehicle accident rate	per million kilometres driven	32	Safety	Chart	Health & Safety	
48	Contribution to communities by region	\$ million Broken into 4 regions: UK/Rest of Europe/US/Rest of World	43	Society	Chart	Communities/Charit able Involvement	

#		CONTENT ANALYSIS - DEVON CANADA CORPORATION					
"	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION		
1	Total Revenues	\$ billions	7	Devon is well prepared	Chart	Financial	
2	Annual Production	Million barrels of oil equivalent	7	Devon is well prepared	Chart	Operations	
3	Proved Reserves	Billion barrels of oil equivalent	7	Devon is well prepared	Chart	Operations	
4	Production Mix	% Broken out by 3 products: Oil/NGLs/Natural gas	8	Devon is well prepared	Chart	Operations	
5	Capital Budget - Exploration & Production - By Area	% Broken into 8 areas: Permian Basin/Eagle Ford/Heavy Oil/Anadarko Basin/Barnett Shale/Emerging Oil/Other/Non-Core Assets	8	Devon is well prepared	Chart	Financial	
6	Expenditures - By area	% Exploration&Production/Tax & Government Royalty Payments/Royalty Payments to Private & Native American mineral owners/Annual Payroll	19	Economic Impact	Chart	Financial	
7	Total Recordable Injury Rate - Workforce	Per 200, 000 hours worked	27	Environmental, Health & Safety	Chart	Health & Safety	
8	Preventable Vehicle Incident Rate - Employees	Per million miles driven	27	Environmental, Health & Safety	Chart	Health & Safety	

#			THEME			
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THENTE
1	Wells Drilled - By Project	# Broken out for 4 projects: Corner/Hangingstone/Leismer/Thornburry	11	Project Updates	Table	Operations
2	Corporate Community Investments - By Type	\$ Millions Broken out for 3 types: Contractual Agreements/Social Investment Projects/Charitable Gifts	40	Communities in Our Operating Area	Chart	Communities/Charitable Involvement
3	Bitumen Production	bbl & bpd	48	Our Performance	Indicator Summary Sheet	Operations
4	Bitumen Production (steam-oil ratio or SOR)	bbl steam/bbl bitumen	48	Our Performance	Indicator Summary Sheet	Operations
5	cumulative SOR (CSOR)	bbl steam/bbl bitumen	48	Our Performance	Indicator Summary Sheet	Operations
6	Natural gas consumption	1,000 cubic metres (m3)	48	Our Performance	Indicator Summary Sheet	Energy
7	Electricity consumption	Gigawatt hour (GWh)	48	Our Performance	Indicator Summary Sheet	Energy
8	Flared gas	1,000 m3	48	Our Performance	Indicator Summary Sheet	Emissions/Air
9	CO ₂ emissions	tonnes & kg/bbl bitumen	48	Our Performance	Indicator Summary Sheet	Emissions/Air
10	SO ₂ emissions	tonnes & kg/bbl bitumen	48	Our Performance	Indicator Summary Sheet	Emissions/Air
11	NO _X emissions	tonnes & kg/bbl bitumen	48	Our Performance	Indicator Summary Sheet	Emissions/Air
12	Freshwater use	m ³ & bbl fresh water/bbl bitumen	49	Our Performance	Indicator Summary Sheet	Water
13	Produced water recycle	%	49	Our Performance	Indicator Summary Sheet	Water
14	Disposal water	m ³ & bbl fresh water/bbl bitumen	49	Our Performance	Indicator Summary Sheet	Water
15	Seedlings planted	#	49	Our Performance	Indicator Summary Sheet	Land
16	Serious Incidents Frequency (SIF) - Total	per million hours worked	49	Our Performance	Indicator Summary Sheet	Health & Safety
17	Total Recordable Injury Frequency (TRIF) - Total	per million hours worked	49	Our Performance	Indicator Summary Sheet	Health & Safety
18	Serious Incidents Frequency (SIF) - By Operation	per million hours worked Reported for 1 operation: Leismar Operation	49	Our Performance	Indicator Summary Sheet	Health & Safety
19	Total Recordable Injury Frequency (TRIF) - By Operation	per million hours worked Reported for 1 operation: Leismar Operation	49	Our Performance	Indicator Summary Sheet	Health & Safety
20	Annual Average Direct CO ₂ Intensity	kg CO2/bbl bitumen	49	Our Performance	Indicator Summary Sheet	Emissions/Air

#		CONTENT ANALYSIS - SYNCRUDE CANADA LTD.				THEME
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	
1	2013 GHG Emission Inventory Distribution	% by type	26	Climate Change	Chart	Emissions/Air
2	Sources of Skilled Trades Maintenance & Construction Workers	# (Canada vs. Temporary Foreign Workers)	59	Labour Relations	Chart	Employees
3	Construction Craft Hours	Hours and %	60	Labour Relations	Chart	Employees
4	Crude oil production	Millions of barrels per year Thousands of barrels per day	70	Finance, Operations & Resource Management	Table	Operations
5	Realized SCO selling price	\$ per barrel	70	Operation Summary	Table	Operations
6	Total operating costs	Millions of dollars \$ per barrel of production	70	Operation Summary	Table	Financial
7	Capital expenditures	\$ millions	70	Operation Summary	Table	Financial
8	Research and development expenditures	\$ millions	70	Operation Summary	Table	Financial
9	Revenues	\$ millions	70	Operation Summary	Table	Financial
10	Retained earnings	\$ millions	70	Operation Summary	Table	Financial
11	Bitumen produced	million barrels million cubic metres	70	Operation Summary	Table	Operations
12	Bitumen recovery	%	70	Operation Summary	Table	Operations
13	Upgrading yield	%	70	Operation Summary	Table	Operations
14	Reportable Spills - Volume	cubic metres	70	Operation Summary	Table	Land
15	Environmental compliance incidents	#	70	Operation Summary	Table	Environmental Violations/Other
16	Environmental fines	\$ millions	70	Operation Summary	Table	Environmental Violations/Other
17	Environmental protection orders	#	70	Operation Summary	Table	Environmental Violations/Other
18	2013 Geographic Distribution of Economic Contribution	\$ millions and %	71	Economic Contributions	Chart	Financial
19	Royalties, payroll & municipal taxes	\$ millions	72	Economic Contributions	Table	Financial
20	Purchased energy	\$ millions	72	Economic Contributions	Table	Financial
21	Employees (salaries and benefits)	\$ millions	72	Economic Contributions	Table	Financial
22	Goods and services	\$ millions	72	Economic Contributions	Table	Financial
23	Economic Contribution - Total	\$ millions	72	Economic Contributions	Table	Financial
24	Wildlife Incidents - Avian	#	83	Key Performance Indicators	Indicator Summary Sheet	Land
25	Wildlife Incidents - Other animal	#	83	Key Performance Indicators	Indicator Summary Sheet	Land
26	Ozone-depleting substances	kg of CFC11 equivalent/year	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air
27	Sulphur dioxide	thousand tonnes/year	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air
28	Sulphur dioxide emission intensity	kg/m³ production tonnes/thousand barrels production	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air
29	Nitrogen oxides	thousand tonnes/year	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air

		CONTENT ANALYSIS - SYNCRUDE CANADA LTD.					
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION		
30	Nitrogen oxides emission intensity	kg/m ³ production tonnes/thousand barrels production	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
31	Volatile organic compounds (VOCs)	thousand tonnes/year	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
32	VOC emission intensity 1	kg/m³ production tonnes/thousand barrels production	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
33	PM – Total particulate matter	tonnes/year	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
34	PM10 – Particulate matter <= 10 microns	tonnes/year	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
35	PM2.5 – Particulate matter <= 2.5 microns	tonnes/year	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
36	Sour gas diverting	tonnes/day SO2	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
37	Flaring (emergency and non-emergency)	million standard m ^a	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
38	Flaring Intensity (emergency and non- emergency)	m³/m³ production	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
39	Diverter stack usage	hours/year	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
40	Sour gas flaring	tonnes/day SO₂	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
41	Main stack sulphur dioxide	hours greater than 16.4 tonnes per hour 90-day rolling average >245 tonnes	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
42	Main stack nitrogen oxides	# of hours > 1.5 tonnes per hour	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
43	Main stack opacity	# hours > 40%	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
44	Ambient air exceedences	# H ² S hourly/H ² S 24-hour period/SO ² hourly/SO ² 24-hour period	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
45	Odour incidents	# attributed to Syncrude	83	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
46	Total energy consumption	billion BTUs	84	Key Performance Indicators	Indicator Summary Sheet	Energy	
47	Energy intensity	million BTUs per barrel	84	Key Performance Indicators	Indicator Summary Sheet	Energy	
48	Energy intensity reduction	% as compared to 1990	84	Key Performance Indicators	Indicator Summary Sheet	Energy	
49	EROEI (Energy Returned on Energy Invested)	ratio of million BTUs of crude oil product per million BTUs of energy consumed	84	Key Performance Indicators	Indicator Summary Sheet	Energy	
50	GHGs	millions of tonnes As per Environment Canada quantification guidelines As per Specified Gas Emitters Regulation tonnes CO ² e per barrel produced	84	Key Performance Indicators	Indicator Summary Sheet	Emissions/Air	
53	Land Cleared	Hectares	84	Key Performance Indicators	Indicator Summary Sheet	Land	
54	Land Disturbed: land used for mine or plant	Hectares	84	Key Performance Indicators	Indicator	Land	
55	Total active footprint – mine and plant site	Hectares	84	Key Performance Indicators	Indicator	Land	
56	Reclamation material moved	million tonnes	84	Key Performance Indicators	Indicator Summary Sheet	Land	

#		·		THEME		
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	
57	Soils placed – land available for revegetation	Hectares	84	Key Performance Indicators	Indicator Summary Sheet	Land
58	Temporary reclamation	Hectares	84	Key Performance Indicators	Indicator Summary Sheet	Land
59	Permanent land reclaimed	Hectares per year Hectares	84	Key Performance Indicators	Indicator Summary Sheet	Land
61	Trees and shrubs planted	# per year Millions Cumulative	84	Key Performance Indicators	Indicator Summary Sheet	Land
62	Fines capture, annual - By Operation	thousand tonnes/%/Cumulative Reported for 2 operations: Mildred Lake/Aurora North	85	Key Performance Indicators	Indicator Summary Sheet	Land
63	Fresh water withdrawal	million m ³	85	Key Performance Indicators	Indicator Summary Sheet	Water
64	Fresh water use intensity	barrel water/barrel production SCO barrel water/barrel bitumen	85	Key Performance Indicators	Indicator Summary Sheet	Water
65	Water returned to the Athabasca River –	million m ³	85	Key Performance Indicators	Indicator	Water
66	Water returned to the Athabasca River – other	million m ³	85	Key Performance Indicators	Indicator	Water
67	Process water recycled	million m ³ % of total water used	85	Key Performance Indicators	Indicator	Water
68	Water discharge quality exceedences (treated	# of incidents	85	Key Performance Indicators	Indicator	Water
69	Water discharge quality exceedences	# of incidents	85	Key Performance Indicators	Indicator	Water
70	Reportable spills to natural water bodies	m³	85	Key Performance Indicators	Indicator	Water
71	Non hazardous waste recycled or reused – solid	tonnes	86	Key Performance Indicators	Indicator	Waste
72	Non hazardous waste recycled or reused – liguid	m³	86	Key Performance Indicators	Indicator Summary Sheet	Waste
73	Non hazardous waste on site disposal	tonnes	86	Key Performance Indicators	Indicator Summary Sheet	Waste
74	Non hazardous waste off site disposal	tonnes	86	Key Performance Indicators	Indicator Summary Sheet	Waste
75	Solid hazardous or potentially hazardous materials sent for offsite recycling	tonnes	86	Key Performance Indicators	Indicator Summary Sheet	Waste
76	Solid hazardous or potentially hazardous materials sent for offsite treatment or destruction	tonnes	86	Key Performance Indicators	Indicator Summary Sheet	Waste
77	Liquid hazardous or potentially hazardous material sent for offsite treatment or destruction	m³	86	Key Performance Indicators	Indicator Summary Sheet	Waste
78	Sanitary non-hazardous disposal – onsite	tonnes	86	Key Performance Indicators	Indicator Summary Sheet	Waste
79	Sanitary non-hazardous disposal – off-site	tonnes	86	Key Performance Indicators	Indicator Summary Sheet	Waste
81	Aboriginal Businesses Spending	\$ billions - Cumulativex \$ millions - Annually	86	Key Performance Indicators	Indicator Summary Sheet	Aboriginals
82	Corporate Donations	\$ millions	86	Key Performance Indicators	Indicator Summary Sheet	Communities/Charit able Involvement
83	Total permanent workforce - by age braket	%	87	Key Performance Indicators	Indicator Summary Sheet	Employees

#		•		THEME		
"	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	
84	Workforce – temporary and casual	#	87	Key Performance Indicators	Indicator Summary Sheet	Employees
85	Employees covered by collective bargaining agreements	%	87	Key Performance Indicators	Indicator Summary Sheet	Employees
86	New employees - All	#	87	Key Performance Indicators	Indicator Summary Sheet	Employees
87	New employees - Trades and operators	#	87	Key Performance Indicators	Indicator Summary Sheet	Employees
88	New employees - Administrative, professional and technical	#	87	Key Performance Indicators	Indicator Summary Sheet	Employees
89	New employees - Aboriginal	#&%	87	Key Performance Indicators	Indicator Summary Sheet	Employees
90	New employees - Female	#&%	87	Key Performance Indicators	Indicator Summary Sheet	Employees
91	New hire acceptance rate	#	87	Key Performance Indicators	Indicator Summary Sheet	Employees
92	Local hires	% of all new hires	87	Key Performance Indicators	Indicator Summary Sheet	Employees
93	Job applications received	#	87	Key Performance Indicators	Indicator Summary Sheet	Employees
94	Annual scholarships, bursaries and endowments	\$	87	Key Performance Indicators	Indicator Summary Sheet	Employees
95	Numbers of employee student scholarships	#	87	Key Performance Indicators	Indicator Summary Sheet	Employees
96	Number of tuition refunds to Syncrude employees	#	87	Key Performance Indicators	Indicator Summary Sheet	Employees
97	Thousand barrels of production per employee		87	Key Performance Indicators	Indicator Summary Sheet	Employees
98	Average employee service	# years	87	Key Performance Indicators	Indicator Summary Sheet	Employees
99	Average employee service - Female	# years	87	Key Performance Indicators	Indicator Summary Sheet	Employees
100	Average employee service - Aboriginal	# years	87	Key Performance Indicators	Indicator Summary Sheet	Employees
101	Leaders completed training	%	87	Key Performance Indicators	Indicator Summary Sheet	Employees
102	Leaders completed diversity training	%	87	Key Performance Indicators	Indicator Summary Sheet	Employees
103	Leaders completed harassment and discrimination awareness training	%	87	Key Performance Indicators	Indicator Summary Sheet	Employees
104	Aboriginal Employees	# % permanent Syncrude workforce	88	Key Performance Indicators	Indicator Summary Sheet	Employees
105	Aboriginal leaders	% permanent Syncrude leaders	88	Key Performance Indicators	Indicator Summary Sheet	Employees
106	Number of employees - Female	# % permanent Syncrude workforce	88	Key Performance Indicators	Indicator Summary Sheet	Employees
107	Female leaders	% permanent Syncrude leaders	88	Key Performance Indicators	Indicator Summary Sheet	Employees
108	Attrition - All employees, including retirements	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees
109	Employee initiated termination	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees

#		•		THEME		
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	
110	Company initiated termination	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees
111	Retirements	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees
112	Aboriginal - Attrition	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees
113	Female - Attrition	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees
114	Trades and operators - Attrition	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees
115	Administrative, professional and technical - Attrition	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees
116	Ratio of standard entry level wage to minimum wage		88	Key Performance Indicators	Indicator Summary Sheet	Employees
117	Employee & Family Assistance Program (EFAP) utilization	# clients as % Syncrude workforce	88	Key Performance Indicators	Indicator Summary Sheet	Employees
118	% hours in training per employee/per annum	%	88	Key Performance Indicators	Indicator Summary Sheet	Employees
119	# of recognitions to employees	#	88	Key Performance Indicators	Indicator Summary Sheet	Employees
120	Anonymous submissions to EthicsPoint	#	88	Key Performance Indicators	Indicator Summary Sheet	Business Integrity
121	Employee lost-time incident (LTI) rate		89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
122	Contractor lost-time incident (LTI) rate		89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
123	Lost-time incident (LTI) rate - Workforce		89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
124	Employee lost-time injuries	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
125	Contractor lost-time injuries	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
126	lost-time injuries - Workforce	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
127	Employee total recordable incident (TRI) rate	injuries/illness per 200,000 work hours	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
128	Contractor total recordable incident (TRI) rate	injuries/illness per 200,000 work hours	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
129	total recordable incident (TRI) rate - Workforce	injuries/illness per 200,000 work hours	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
130	Employee recordable injuries	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
131	Contractor recordable injuries	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
132	Recordable injuries - Workforce	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
133	Employee injury severity rate	average rate of lost workdays per lost-time injury/illness	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
134	Contractor injury severity rate	average rate of lost workdays per lost-time injury/illness	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety
135	Injury severity rate - Workforce	average rate of lost workdays per lost-time injury/illness	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety

#		CONTENT ANALYSIS - SYNCRUDE CANADA LTD.								
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION					
136	Injury-free performance – maximum hours between LTIs	millions of hours	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
137	Temporary disability absenteeism	% Syncrude workforce	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
138	New long-term disability (LTD) cases	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
139	Disability management visits	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
140	Health centre visits	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
141	Employee fatalities	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
142	Contractor fatalities	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
143	On-site responses by emergency services	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
144	Off-site responses by emergency services	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
145	SH&E professionals on staff	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
146	Workforce represented in formal joint management-worker H&S committees (i.e. safe operating committees)	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
147	Health and safety convictions	#	89	Key Performance Indicators	Indicator Summary Sheet	Health & Safety				
148	On-site workforce	#	89	Key Performance Indicators	Indicator Summary Sheet	Employees				
149	Workforce hours	millions	89	Key Performance Indicators	Indicator Summary Sheet	Employees				

#		CONTENT ANALYSIS - TOTAL E&P CANADA LTD.				THEME
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	
1	Total recordable injury rate (TRIR)	per million hours worked	23	Safety First	Chart	Health & Safety
2	Lost time injury rate (LTIR)	per million hours worked	23	Safety First	Chart	Health & Safety
3	Fatal incident rate (FIR)	per million hours worked (three-year moving average)	23	Safety First	Chart	Health & Safety
4	Greenhouse Gas Emissions	million tons of carbon dioxide equivalent	27	Climate Change	Chart	Emissions/Air
5	Gas Flaring	million cubic meters per day **Excluding during Start - Up	27	Climate Change	Chart	Emissions/Air
6	Energy Efficiency of Facilities	Group Energy Efficiency Index	27	Climate Change	Chart	Energy
7	SO ₂ Emissions	thousands of tons	29	The Environment	Chart	Emissions/Air
8	Hydrocarbons discharged to water	metric tons	29	The Environment	Chart	Water
9	Oil spills (>= one barrel)	#	29	The Environment	Chart	Land
10	Volume of Oil Spills (>= one barrel)	thousands of cubic meters	29	The Environment	Chart	Land
11	New Hires	#	31	Responsible Employer	Chart	Employees
12	Countries Selling Awango by Total	#	35	Access to Energy	Chart	Energy

"						
Ħ	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEIVIE
1	Revenues - Total	\$ Millions	32	Community	Table	Financial
2	Revenues - By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Financial
3	Operating Costs - Total	\$ Millions	32	Community	Table	Financial
4	Operating Costs - By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Financial
5	Employee Wages and Benefits - Total	\$ Millions	32	Community	Table	Financial
6	Employee Wages and Benefits - By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Financial
7	Dividends to Shareholders - Total	\$ Millions	32	Community	Table	Financial
8	Dividends to Shareholders - By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Financial
9	Interest Paid - Total	\$ Millions	32	Community	Table	Financial
10	Interest Paid - By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Financial
11	Income and Resource Taxes Paid - Total	\$ Millions	32	Community	Table	Financial
12	Income and Resource Taxes Paid - By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Financial
13	Community Investments - Total	\$ Millions	32	Community	Table	Communities/Charitable Involvement
14	Community Investments- By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Communities/Charitable Involvement
15	Economic Value Distributed - Total	\$ Millions	32	Community	Table	Financial
16	Economic Value Distributed - By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Financial
17	Economic Value Retained - Total	\$ Millions	32	Community	Table	Financial
18	Economic Value Retained - By Country	\$ Millions Broken out for 5 countries: Canada/Chile/Peru/United States/Other	32	Community	Table	Financial
19	What we Support - By Area	\$ and % Broken out by 5 areas: Other/health/environment/community/Education	33	Community	Chart	Communities/Charitable Involvement
21	High-Potential Incident Frequency	Per 200,000 Hours Worked (broken out by high-potential, serious high potential & potentially fata occurrence)	53	Our People	Chart	Health & Safety
22	Number of Local Employees - By operation	# and % Broken out for 22 operations	56	Community	Table	Employees
23	Global Workforce - Administrative	% and #	57	Our People	Chart	Employees
	Global Workforce - Operations	% and #	57	Our People	Chart	Employees
	Global Workforce - Executive and Senior Management	% and #	57	Our People	Chart	Employees
1	Global Workforce - Management	% and #	57	Our People	Chart	Employees

		•	LOCATION			
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	THEME
	Global Workforce - Professional	% and #	57	Our People	Chart	Employees
	Global Workforce - Professional Support	% and #	57	Our People	Chart	Employees
24	Global Workforce by Geographic Location (%)	% & # Broken out by: Canada/Chile/United States/other	57	Our People	Chart	Employees
25	Global Workforce by Age and Gender	% - broken out by age group and gender	57	Our People	Chart	Employees
26	Number of Women in - Labourer, Operator, Loss Prevention	# & % Broken out by position type	59	Our People	Table	Employees
27	Number of women in operational or technical leadership positions	#&%	60	Our People	Table	Employees
28	Pension Plan Participation	# active vs inactive	61	Our People	Table	Employees
29	Freshwater use - By Operation	millions of cubic metres (m3) Broken out for 2 operations: Steelmaking Coal Operations/Milling and Flotation Operations	71	Water	Table	Water
30	Water - Quantity processed or produced - By Operation	tonnes of raw coal processed Broken out for 2 operations: Steelmaking Coal Operations/Milling and Flotation Operations	71	Water	Table	Water
31	Freshwater use intensity - By Operation	m3/tonne of raw coal processed Broken out for 2 operations: Steelmaking Coal Operations/Milling and Flotation Operations	71	Water	Table	Water
32	Energy Consumption by Type 2011–2013	Terajoules	85	Energy	Chart	Energy
33	Energy Intensity in product	Terajoules per Kilotonne 2 products: Steelmaking Coal Production/Zinc and Lead Production	85	Energy	Chart	Energy
34	Carbon Intensity in product	Tonnes of CO2e per Tonne Production 3 products: Steelmaking Coal Production/Zinc and Lead Production/Copper Production	85	Energy	Chart	Emissions/Air
35	GHG Emissions by Type 2011–2013	CO2e (Kilotonnes)	87	Energy	Chart	Emissions/Air
36	Total Recordable Injury Frequency (TRIF)	200,000 hours worked	100	Performance Overview Table	Indicator Summary Sheet	Health & Safety
37	Fatalities	#	100	Performance Overview Table	Indicator Summary Sheet	Health & Safety
38	Lost-Time Injury (LTI)	#	100	Performance Overview Table	Indicator Summary Sheet	Health & Safety
39	LTI Frequency (LTIF)	200,000 hours worked	100	Performance Overview Table	Indicator Summary Sheet	Health & Safety
40	Severity (incident)	number of days missed due to lost-time injuries per 200,000 hours worked	100	Performance Overview Table	Sheet	Health & Safety
41	Energy — fuel	τ	100	Performance Overview Table	Indicator Summary Sheet	Energy
42	Energy — electricity	τ	100	Performance Overview Table	Indicator Summary Sheet	Energy
43	Total energy use	σ	100	Performance Overview Table	Indicator Summary Sheet	Energy
44	GHG emissions — direct CO2e	Kt	100	Performance Overview Table	Indicator Summary Sheet	Emissions/Air
45	GHG emissions — indirect CO2e	Kt	100	Performance Overview Table	Indicator Summary Sheet	Emissions/Air
46	GHG emissions — total CO2e	Kt	100	Performance Overview Table	Indicator Summary Sheet	Emissions/Air
47	Waste rock	Kt	100	Performance Overview Table	Indicator Summary Sheet	Land

			LOCATION	TUENAE		
Ħ	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LOCATION	IHEIVIE
48	Tailings - Dry	Kt	100	Performance Overview Table	Indicator Summary Sheet	Land
49	Coarse coal refuse	Kt	100	Performance Overview Table	Indicator Summary Sheet	Land
50	Permit non-compliance	#	100	Performance Overview Table	Indicator Summary Sheet	Environmental Violations/Other
51	Regulatory non-compliance	#	100	Performance Overview Table	Indicator Summary Sheet	Environmental Violations/Other
52	Number of Significant Spills	#	100	Performance Overview Table	Indicator Summary Sheet	Land
53	Area reclaimed	ha	100	Performance Overview Table	Indicator Summary Sheet	Land
54	Area disturbed	ha Total ha to date	100	Performance Overview Table	Indicator Summary Sheet	Land
55	Area of land yet to be reclaimed	ha	100	Performance Overview Table	Indicator Summary Sheet	Land
57	Hazardous waste sent off-site but not recycled	tonnes	100	Performance Overview Table	Indicator Summary Sheet	Waste
58	Hazardous waste treated/disposed of on-site	tonnes	100	Performance Overview Table	Indicator Summary Sheet	Waste
59	Hazardous waste recycled	tonnes	100	Performance Overview Table	Indicator Summary Sheet	Waste
60	Non-hazardous waste sent off-site but not recycled	tonnes	100	Performance Overview Table	Indicator Summary Sheet	Waste
61	Non-hazardous waste treated/disposed of on- site	tonnes	100	Performance Overview Table	Indicator Summary Sheet	Waste
62	Non-hazardous waste recycled	tonnes	100	Performance Overview Table	Indicator Summary Sheet	Waste
63	Total water inputs	m ³	100	Performance Overview Table	Indicator Summary Sheet	Water
64	Total water outputs	m ³	100	Performance Overview Table	Indicator Summary Sheet	Water
65	Freshwater use	m ³	100	Performance Overview Table	Indicator Summary Sheet	Water
66	Water reused/recycled	m ³ & %	100	Performance Overview Table	Indicator Summary Sheet	Water
67	Total number of significant disputes relating to land use and the customary rights of local communities and Indigenous Peoples	#	103	Addendum — Selected Performance Measures Reviewed	Table	Aboriginals
68	Particulate Matter (less than 10 microns) - By Operation	tonnes Reported for 11 operations	107	Appendix B - Data Tables	Table	Emissions/Air
69	Particulate Matter (less than 2.5 microns) - By Operation	tonnes Reported for 11 operations	107	Appendix B - Data Tables	Table	Emissions/Air
70	Sulphur (SO _x) Emissions - By Operation	tonnes Reported for 11 operations	107	Appendix B - Data Tables	Table	Emissions/Air
71	Nitrogen Oxides (NO _x) Emissions - By Operation	tonnes Reported for 11 operations	107	Appendix B - Data Tables	Table	Emissions/Air
72	Carbon Monoxide (CO) Emissions - By Operation	tonnes Reported for 11 operations	107	Appendix B - Data Tables	Table	Emissions/Air
73	Volatile Organic Compound (VOC) Emissions - By Operation	tonnes Reported for 11 operations	107	Appendix B - Data Tables	Table	Emissions/Air

"		CONTENT ANALYSIS - TECK RESOURCES LTD.							
#	INDICATOR	MEASUREMENT UNITS	PG #	SECTION TITLE	LUCATION	THEIVIE			
74	Mercury (Hg) Emissions - By Operation	tonnes Reported for 11 operations	107	Appendix B - Data Tables	Table	Emissions/Air			
75	Percentage of Local Employees in Senior Management Roles - By operation	% Reported for 13 operations	108	Appendix B - Data Tables	Table	Employees			
76	2013 Total Feedback Received by Communities of Interest by Topic Category	% by type	108	Appendix B - Data Tables	Chart	Communities/Charitable Involvement			
77	Total 2013 Significant Feedback Received by Communities of Interest by Topic Category	% by type	108	Appendix B - Data Tables	Chart	Communities/Charitable Involvement			
78	Percentage of Spending on Locally Based Suppliers - By operation	% Broken out for 9 operations	109	Appendix B - Data Tables	Table	Financial			
79	Progress Towards Implementing the United Nations Guiding Principles on Business and Human Rights		109	Appendix B - Data Tables	Table	Business Integrity			
80	Voluntary Turnover Number by age gender - By Country	% and # Broken out by country: Canada/United States/Chile/Peru/Other	109	Appendix B - Data Tables	Table	Employees			
81	Voluntary Turnover Rate - Total - By age and gender	% & #	110	Appendix B - Data Tables	Table	Employees			
82	Turnover Number by Age and Gender - By Country	% and # Broken out by country: Canada/United States/Chile/Peru/Other	110	Appendix B - Data Tables	Table	Employees			
83	Total Turnover Rate by Age and Gender	% & #	111	Appendix B - Data Tables	Table	Employees			

Appendix 3: 2010 Indicator Database

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	ВР	Syncrude	Total	Teck
				EN	VIRONMENT	AL								
Indicator	Total F	Reports	Sub- Category	Sub- Category Total				EMISS	SIONS/AIR -	44 INDICATO	DRS			
	_		Total	6	х		х	х		х		х		х
GHG/CO2 _e Emissions	6	60%	By Operation / Business Area	2				x		x				
			Total	3			х					х	х	
NO _X Emissions	5	50%	By Operation /Business Area	3		x							x	×
			Total	2							х			х
Direct GHG/CO2 _e Emissions	4	40%	By Operation /Business Area	3		x			x					x
			Total	2			x							х
Indirect GHG/CO2 _e Emissions	4	40%	By Operation /Business Area	2		x			х					
	_		Total	3			х					х	х	
SO ₂ Emissions	4	40%	By Operation /Business Area	2		x							x	
	_		Total	2		х					х			
Gas Flaring	3	30%	By Operation /Business Area	1			х							
	_		Total	1				х						
GHG/CO2e Emissions Intensity	3	30%	By Operation /Business Area	3			х	х	х					
Volatile Organic Compounds	_		Total	2			х					х		
(VOCs) - Emissions	3	30%	By Operation /Business Area	1										х
Direct GHG/CO2 _e Emissions	2	20%	By Operation /Business Area	1		x								
Intensity	2	2 20%	Cogeneration	1			х							
			Excluding Cogeneration	1			х						~	
			By Source	2						x			<u>x</u>	
GHG Emissions (%)	2	20%	By Operation /Business	1									x	
			Total	1				x						
Air Emissions - Includes S0 ₂ , NOx, VOC	1	10%	By Operation /Business Area	1				x						
Ambient Air Exceedances - H ₂ S	1	10%	Total	1								х		
Ambient Air Exceedances - SO ₂	1	10%	Total	1								х		
Carbon Intensity in Materials Moved (Total Scope 1 and Scope 2 Emissions)	1	10%	By Operation /Business Area	1										х
Carbon Intensity in Product	1	10%	By Operation /Business Area	1										x
Carbon Monoxide (CO) Emissions	1	10%	By Operation / Business Area	1										x
Changes in Direct GHG Emissions 2008–2009	1	10%	Total	1										x
Customer Emissions	1	10%	Total	1							х			
Direct Carbon Dioxide CO ₂	1	10%	Total	1							х			
Direct GHG Emissions from Fuel Consumption	1	10%	By Operation / Business Area	1		x								
Direct Methane	1	10%	Total	1							х			

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
				EN	VIRONMENT	AL								
Indicator	Total F	Reports	Sub- Category	Sub- Category Total				EMIS	SIONS/AIR -	44 INDICATO	DRS			
Diverter Stack Usage	1	10%	Total	1								х		
Flaring and Venting	1	10%	Total	1									Х	
Flaring Volume per Unit of Prodcution	1	10%	By Operation /Business Area	1						х				
Gas Venting	1	10%	Total	1		х								
Indirect Carbon Dioxide CO ₂	1	10%	Total	1							х			
Indirect GHG Emissions - Electricity Consumption	1	10%	By Operation /Business Area	1		x								
Main stack Nitrogen Oxides N0 _x	1	10%	Total	1								х		
Main stack opacity	1	10%	Total	1								х		
Main Stack Sulphur Dioxide SO ₂	1	10%	Total	1								х		
Mercury (Hg) Emissions	1	10%	By Operation /Business Area	1										х
NO _x Emissions Intensity	1	10%	Total	1								х		
			Total	1									х	
Non-Methane VOC Emissions	1	10%	By Operation /Business Area	1									х	
Odour Incidents	1	10%	Total	1								х		
Ozone-Depleting Substances	1	10%	Total	1								Х		
PM10 – Particulate matter <= 10 microns	1	10%	By Operation /Business Area	1										x
PM2.5 – Particulate matter <= 2.5 microns	1	10%	By Operation /Business Area	1										х
Production Carbon Intensity	1	10%	Total	1	х									
			Total	1									х	
Six Greenhouse Gases	1	10%	By Operation /Business Area	1									х	
SO ₂ Emissions Intensity	1	10%	Total	1								х		
Solution gas recovery from oil production	1	10%	Total	1			х							
Sour Gas Flaring/Diverting	1	10%	Total	1								Х		
SO _x Emissions	1	10%	By Operation /Business Area	1										х
Volatile Organic Compounds (VOCs) - Emissions Intensity	1	10%	Total	1								x		

						Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
				EN	/IRONMENT	AL								
Indicator	Indicator Total Reports Sub- Category Total Total		Sub- Category Total				E	NERGY - 10 I	NDICATORS					
			Total	3			Х					Х		Х
nergy Use	4	40%	By Operation /Business Area	1						x				
Changes in Energy Use 2008 – 2009	1	10%	Total	1										х
Energy Conversion (%)	1	10%	Total	1								Х		
Energy Intensity	1	10%	Total	1								Х		
Energy Intensity Improvement	1	10%	Compared to Baseline	1								Х		
Energy Use - Fuel	1	10%	Total	1										х
Energy Use - Electrivity	1	10%	Total	1										Х
Fuels Refining Energy Intensity	1	10%	Normalized Index	1			Х							
Installed Wind Capacity	1	10%	Total	2				х			х			
			Total	1									х	
Primary Energy Consumption	1	1 10% By Ar	By Operation /Business Area	1									х	

					Nexen	Canadian Natural	Imperial	Suncor	Shell	Conoco	BP	Syncrude	Total	Teck
						Resources	Oil	Energy		1				
			-	EN	/IRONMENT	AL								
Indicator	Total F	leports	Sub- Category	Sub- Category Total				v	VATER - 23 I	NDICATORS				
			Total	1								х		
Water Diverted/Returned	2	20%	By Operation /Business Area	1	х									
Athabasca River water withdrawal/Consumed	1	10%	By Operation /Business Area	1					х					
Chemical Oxygen Demand (COD)	1	10%	Total	1									x	
Discharges (excluding once- through cooling water)	1	10%	Total	1									x	
Fresh water Use/Consumption	1	10%	By Operation /Business Area	1			х							
Freshwater Withdrawal (excluding once-through cooling water)	1	10%	Total	1									x	
Groundwater Withdrawal	1	10%	Total	1										Х
Hydrocarbon Discharges in Effluent	1	10%	Total By Operation /Business Area	1 1									x x	
Other Water Withdrawal	1	10%	Total	1										х
Process Water Recycled	1	10%	Total	1								х		
Recycled Pond Water Use	1	10%	By Operation /Business Area	1					х					
Reportable Spills to Natural Water Bodies	1	10%	Total	1								х		
Surface Water Withdrawal	1	10%	Total	1										Х
Suspended Solids Discharges	1	10%	Total	1									Х	
Total Effluent Treated & Returned to the River	1	10%	By Operation /Business Area	1					х					
Treated Water Returned to the Athabasca River – Sanitary	1	10%	Total	1								х		
Treated Water Returned to the Athabasca River – Other	1	10%	Total	1								х		
Water Consumption/Use	2	20%	Total By Operation /Business Area	1				x	x					
Water Discharge Quality Exceedences (Industrial Process)	1	10%	Total	1								x		
Water Discharge Quality Exceedences (Treated Sanitary)	1	10%	Total	1								x		
Water Imported from Athabasca River	1	10%	By Operation /Business Area	1								x		
Water Reused/Recycled	1	10%	Total	1										х
Water Withdrawal	1	10%	Total	1				х						

						Canadian	Imperial	Suncor		Conoco				
					Nexen	Natural Resources	Oil	Energy	Shell	Phillips	BP	Syncrude	Total	Teck
				EN	VIRONMENT	AL			1	1	l			l
				Sub-										
Indicator	Total R	leports	Sub- Category	Category				1	LAND - 32 II	DICATORS				
		-		Total										
Level Distanting d		400/	Total	3					Х			Х		х
Land Disturbed	4	40%	By Operation / Business	1				х						
			Total	1										x
Land Reclaimed	2	20%	By Operation / Business	-										~
			Area	1				х						
			Total	2							х		х	
Oil Spills Volume	2	20%	By Operation / Business	1									x	
			Area	-									X	
Permanent reclamation	2	20%	Total	2					Х			Х		
Temporary reclamation	2	20%	Total	2					Х			Х		
Active Operated Wells	1	10%	Total	1		X			v					
Certified Reclamation	1	10%	Total	1					x v					
	1	10%	By Operation /Business	1					^					
Footprint	1	10%	Area	1					х					
Inactive Operated Wells	1	10%	Total	1		х								
Land Cleared	1	10%	Total	1					х					
Land Reclaimed / Land to be		4.00%	T I											v
Reclaimed (%)	1	10%	lotal	1										X
Losses of primary containment	1	10%	Total	1							х			
Oil & Chemical Spills	1	10%	Total	1			х							
Oil & Chemical Spills - Volume	1	10%	Total	1			Х							
	1	10%	Total	1									Х	
Reclamation Certificates	1	10%	Total	1		х								
Submitted			By Operation /Business											
Reportable Spills	1	10%	Area	1		х								
			By Operation / Business	_										
Reportable Volume Spilled	1	10%	Area	1		x								
Spills	1	10%	Total	1										х
Spills and leaks/production	1	10%	By Operation / Business	1		x								
	-	10/0	Area	-		~								
Tailings - Dry	1	10%	Total	1										X
Total Volume of Tailings	1	1.0%	Total	1					v					
Facility	1	10%	TOLA	1					^					
Trees/Shrubs Planted	1	10%	Total	1								x		
Volume of Oil Unrecovered	1	10%	Total	1							х			
Volume of Spills	1	10%	Total	1										х
Volume Spilled or		1.0%	By Operation /Business	1		v								
leaked/production	1	10%	Area	1		X								
Waste rock	1	10%	Total	1										Х
Weight of Spills	1	10%	Total	1										х
Wells Abandoned	1	10%	Total	1	1	х								

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
				EN	VIRONMENT	AL						<u> </u>		
Indicator	Total R	eports	Sub- Category	Sub- Category Total				v	VASTE - 18 II	NDICATORS				
Dangerous Oil Field Waste	1	10%	Total	1		х								
2008 Waste Profile	1	10%	Ву Туре	1						х				
Hazardous Waste	1	10%	Total	1			Х							
Hazardous Waste - On-Site Disposal	1	10%	Total	1										x
Hazardous Waste Production			Total	1									Х	
from Routine Operations - Treated Offsite	1	10%	By Operation /Business Area	1									x	
Hazardous Waste Recycled	1	10%	Total	1										Х
Hazardous Waste Sent Off-Site - Not Recycled	1	10%	Total	1										х
Hazardous/Potentially Hazardous Materials - Offsite Treatment/ Destruction - Liquid	1	10%	Total	1								х		
Hazardous/Potentially Hazardous Materials - Offsite Treatment/ Destruction - Solid	1	10%	Total	1								x		
Industrial Non-hazardous Disposal - Onsite	1	10%	By Operation /Business Area	1								х		
Major Waste Recycled or Reused - Liquid	1	10%	Total	1								x		
Major Waste Recycled or Reused - Solid	1	10%	Total	1								x		
Minor Waste Recycled or Reused—Solid	1	10%	Total	1								х		
Non-Hazardous Waste - On-Site Disposal	1	10%	Total	1										x
Non-Hazardous Waste Recycled	1	10%	Total	1										х
Non-hazardous Waste Sent Off- Site - Recycled	1	10%	Total	1										х
Sanitary Non-Hazardous Disposal – On-Site	1	10%	Total	1								x		
Special Waste	1	10%	Total	1									х	

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
				EN	VIRONMENT	ral 🛛								
Indicator	Total R	leports	Sub- Category	Sub- Category Total			ENVI	RONMENTA		NS/OTHER -	10 INDICAT	ORS		
Environmental fines & penalties	2	20%	Total	2			х					x		
Environmental and safety fines	1	10%	Total	1	x									
Environmental Incidents (Spills & Exceedances)	1	10%	Total	1	x									
Environmental Protection Orders	1	10%	Total	1								х		
Environmental Regulatory/ Compliance Incidents	1	10%	Total	1			х							
NPRI On-Site Releases	1	10%	Total	1								Х		
Permit Non-Compliance	1	10%	Total	1										Х
Regulatory Non-Compliance	1	10%	Total	1										Х
Significant Environmental Incidents	1	10%	Total	1										х
Sites that responded to the environmental reporting questionnaire	1	10%	Total	1									x	

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
					SOCIAL									
Indicator	Total F	teports	Sub- Category	Sub- Category Total			сомм	iunities/ch	ARITABLE IN	VOLVEMEN	T - 8 INDICA	TORS		
			Total	4	Х		Х				Х			Х
Investments to the Community	5	50%	By Geography	1										
			By Focus Area	2	x x x x x									
United Way Contributions	2	20%	Total	2										
Community Development		100/	Total	1									Х	
Spending	1	10%	Non-OECD Countries	1									Х	
Consultation & Monitoring Funding - By Association/Program	1	10%	Total	1	x									
Corporate Donations	1	10%	Total	1								Х		
French Community Development Fund for Youth	1	10%	Total	1									х	
Number of initiatives - Community	1	10%	Total	1									x	
Total Foundation + corporate Philanthropy Spending	1	10%	Total	1									x	

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
					SOCIAL									
Indicator	Total R	eports	Sub- Category	Sub- Category Total				BUSINE	SS INTEGRIT	Y - 6 INDICA	TORS			
Cases Handled by the Ethics Committee	1	10%	Total	1									х	
Contracts Terminated or not renewed due to non-compliance or unethical behaviour	1	10%	Total	1							x			
Incidents in 2009 Affecting Employees/Communities/ Environment Which Required the Activation of Broad Emergency Preparedness Procedures	1	10%	Total	1										x
OpenTalk Cases	1	1.0%	Total	1							х			
Open laik Cases	1	10%	By Geography	1							х			
Reported and Substantiated	1	10%	Total	1	X									
Integrity Incidents			By Category	1	X									
Visits to Total's Dedicated Ethics Intranet	1	10%	Total	1									х	

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
	-			-	SOCIAL									
Indicator	Total F	Reports	Sub- Category	Sub- Category Total				EM	PLOYEES - 4	1 INDICATOR	RS			
			Women	4			х			х		х	х	
			Aboriginal	2			х					х		
			Visible Minorities	1			х							
Employees - By Minority Group	5	50%	Person with Disabilities	1			х							
	-		Women - By Operation/Business Area	1										х
			Aboriginals - By Operation/Business Area	1										x
			Total	4			х					х	Х	Х
			By Geography	2			х						х	
Total Workforce	5	50%	By Operation /Business Area	2		x								х
			Non-French Nationals	1									х	
			Professionals	1						х				
			Leadership	3						х	х	х		
			Officials & Managers	1						Х				
			Management Level	1									х	
Women by Job Type	5	50%	Senior Executives	1									х	
			Management,											
			Governance, Professional	1										x
			& Administrative	_										
			Positions											
			Total	1								<u>x</u>		
			Voluntary	1								X		
			Company Initiated	1							X	×		
			Aboriginal	1								×		
Attrition	3	30%	Female	1								x		
			Trades & Operators	1								x		
			Administrative,									v		
			professional & Technical	1								×		
			Total - By Age/Gender	1										X
Employees - Age Bracket	2	20%	By Bracket	2								х	Х	
			Regular	2							Х		Х	
			Leadership	1							Х			
Employees by Job Type	2	20%	Ivianagers	1									<u>x</u>	
			Senior Executives	1									Χ	
			Managers	1									х	
			Total	1									х	
Employees Covered by Collective Bargaining Agreements	2	20%	By Operation/Business	1										х
			Area	-										
	_		Employees	1							v	X		
Hours Worked	2	20%	Employees	1							<u>^</u>			
			Contractors	1							X			

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
					SOCIAL									
				Sub-										
Indicator	Total R	eports	Sub- Category	Category Total				EMI	PLOYEES - 4	l Indicator	IS			
			Total	1								х		
			Trades & Operators	1								х		
			Administrative, professional & Technical	1								х		
			Aboriginal	1								х		
			Female	2								х	х	
	2	20%	Female - Management	1									х	
New Employees	2	20%	By Geography	1									x	
			Non-French Nationals	1									x	
			Non-French Nationals											
			Permanent Contract											
			Manager Hires	1									х	
Employee Engagement Score	1	10%	Total	1	х									
Average Employee Service	1	10%	Total	1								х		
Long Term Hires	1	10%	By Geography	1									Х	
Nationalities represented at Total	1	10%	Total	1									х	
Job Offers Accepted	1	10%	Total	1								х		
Local Hires	1	10%	Total	1								х		
Job Applications Received	1	10%	Total	1								х		
Scholarships & Bursaries - Annual Contribution	1	10%	Total	1								х		
Numbers of Employee Student Scholarships	1	10%	Total	1								x		
Number of Tuition Refunds to Syncrude Employees	1	10%	Total	1								х		
Thousand Barrels of Oil per	1	10%	Total	1								x		
# of Recognitions to Employees	1	10%	Total	1								x		
Aboriginals by Job Type	1	10%	Leadership	1								x		
Average length of time in a position	1	10%	By Braket	1									х	
Companies with Employee Representation	1	10%	Total	1									х	
Core Value Questionaire Responses	1	10%	Total	1					х					
Cultural Awareness Training	1	10%	Total	1			х							
Diversity & Inclusion														
Questionaire Responses	1	10%	ισται	1					x					
Employee & Family Assistance Program (EFAP) Utilization	1	10%	Total	1								x		
Employee Satisfaction	1	10%	Total	1							х			
Employees who can opt to work part time	1	10%	Total	1									x	
Employees with death benefits > 200% of gross salary	1	10%	Total	1									x	

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
				_	SOCIAL									
Indicator	Total F	Reports	Sub- Category	Sub- Category Total				EM	PLOYEES - 4	1 INDICATOF	RS			
Group Companies with an Annual			Total	1									х	
Performance Review System	1	10%	For Non-Managers	1									Х	
i enomance neview system			For Managers	1									х	
Leaders Completed Diversity Workshops	1	10%	Total	1								x		
Leaders Completed Harassment and Discrimination Workshops	1	10%	Total	1								x		
Leaders Completed Leadership Training	1	10%	Total	1								х		
Minorities by Job Type	1	10%	Professionals	1						х				
Winter thes by Job Type	-	10%	Officials & Managers	1						Х				
Non U.S. Employees - By Job Type	1	10%	Total	1						х				
			Leadership	1						х				
People from Beyond the UK and US in Group Leadership	1	10%	Total	1							х			
People from UK and US Racial Minorities in Group Leadership	1	10%	Total	1							x			
Training Hours per Employee	1	10%	Total	1								x		
Turnover Rate	1	10%	Voluntary	1	х									

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
					SOCIAL									
Indicator	Total F	leports	Sub- Category	Sub- Category Total				HEALT	H & SAFETY	- 22 INDICAT	ORS			
			Total	6	x					x	x	x	x	x
Recordable Injury		80%	Employees	2			х					х		
Frequency/Rate	0	80%	Contractors	2			х					х		
			By Operation/Business Area	2		x							х	
			Total	2									х	х
			Employees	3			x				x	x		
			Contractors	3			x				x	x		
Fatalities	6	60%	By Operation/Business Area - Workforce	1		x						~ ~		
			By Operation/Business Area - Contractors	1		x								
			Total	3								х	х	х
			Employees	3			x	x				x		
Lost Time Injury Frequency/Rate	5	50%	Contractors	3			x	x				x		
	-		By Operation/Business				~	~				~		
			Area	1									х	
Days Away from Work Cases	2	20%	Total	2						Y	Y			
buys Away from Work cases	-	20/0	Total	2						A	~	×		×
Injury Severity Pate	2	20%	Employees	1								x		~
injury Severity Nate	2	20/8	Contractors	1								<u>x</u>		
			Total	2								×		×
Lost time injuries	2	20%	Employees	1								×		^
Lost time injunes	2	20%	Contractors	1								<u> </u>		
			Total	2							v	×		
Recordable Injuries	2	20%	Employees	1							^	<u> </u>		
Recordable injuries	2	2078	Contractors	1								×		
Dave away from work and			contractors	-								^		
frequency (DAWFCF)	1	10%	Total	1							х			
Exposure Hours	1	10%	By Operation/Business Area	1		х								
Fatal accidents by cause over five years	1	10%	Total	1									х	
Fatalities Frequency	1	10%	Total	1									х	
Health and Safety Convictions	1	10%	Total	1								x		
Health Centre Visits	1	10%	Total	1	1							х		
Injury-Free Performance –		-,-		i –										
Maximum Hours Between LTIs	1	10%	Total	1								х		
Cases	1	10%	Total	1								х		
Off-Site Responses by Emergency Services	1	10%	Total	1								x		
On-Site Responses by Emergency Services	1	10%	Total	1								x		
Patrom Deployment	1	10%	Total	1									x	

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
					SOCIAL									
Indicator	Total I	Reports	Sub- Category	Sub- Category Total				HEALT	H & SAFETY	- 22 INDICA	TORS			
Percentage Group companies that offer employees regular medical checkups	1	10%	Total	1									х	
Safety, Health & Environment Staff Complement	1	10%	Total	1								х		
Temporary Disability Absenteeism	1	10%	Total	1								х		
Workforce Represented in Formal Joint Management- Worker H&S Committees	1	10%	Total	1								x		

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
					ECONOMIC					• •				
Indicator	Total R	eports	Sub- Category	Sub- Category Total				FIN	ANCIAL - 38	B INDICATOR	5			
Dividends	4	40%	Total	4			х				х		х	х
Employee Benefits (i.e. Salaries/Bonuses/Short-Term Benefits)	3	30%	Total	3			x				x	х		
Taxes	3	30%	Total By Geography	3	x x						х			x x
Capital Expenditures	2	15%	Total	2								х	х	
Economic Value Distributed	2	20%	Total By Geography	2 1								x x		x
Economic Value Retained	2	20%	Total	2								х		x
Environmental Expenditures	2	20%	Total	2			х				х			
Operating Costs	2	20%	Total	2								х		x
Payments for Goods & Services	2	20%	Total	2			х					х		
, 			Cumulative	1								х		
Payments to Governments	2	20%	By Geography	1			х							
Return on Average Capital Employed	2	20%	Total	2			x						x	
Revenues	2	20%	Total	2								х		х
Royalties	2	20%	Total	2	х							х		
Adjusted Fully-Diluted Earnings Per Share	1	10%	Total	1									x	
Adjusted Net Income	1	10%	Total	1									х	
Adjusted Net Operating Income from Business Segments	1	10%	Total	1									x	
Adjusted Operating Income from Business Segments	1	10%	Total	1									х	
Annual Shareholders' Return	1	10%	Total	1			х							
Capital & Exploration														
Expenditures	1	10%	Total	1			x							
Cash and Cash Equivalents at Year- End	1	10%	Total	1			х							
Cash Flow from Operating Activities	1	10%	Total	1									x	
Common Shares Purchased	1	10%	Total	1			х							
Contracted Services	1	10%	Total	1								х		
Divestitures at Selling Price	1	10%	Total	1									х	
Interest Expense	1	10%	Total	1										х
Long-Term Debt	1	10%	Total	1			х							
Materials & Supplies	1	10%	Total	1								х		
Net Debt-to-Equity	1	10%	Total	1									х	
Net Income	1	10%	Total	1			х							
Other Expenditures	1	10%	Total	1								х		
Payroll & Municipal Taxes	1	10%	Total	1								х		
Political Contributions	1	10%	Total	1			x							
Purchased Energy	1	10%	Total	1								x		
					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
--	---------	---------	-------------------------------	---------------------------	------------------------------	----------------------------------	-----------------	------------------	-------	--------------------	----	----------	-------	------
					ECONOMIC									
Indicator	Total F	leports	Sub- Category	Sub- Category Total	ry FINANCIAL - 38 INDICATORS									
Reclamation Expenditures	1	10%	Total	1								Х		
Return on Equity	1	10%	Total	1									х	
Spending on Locally Based Suppliers	1	10%	By Operation/Business Area	1										х
Total Expenditures	1	10%	Total	1								х		
Total Royalties & Income Taxes	1	10%	Total	1			х							

					Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Syncrude	Total	Teck
					ECONOMIC									
Indicator	Total F	leports	Sub- Category	Sub- Category Total				OP	ERTIONS - 22		S			
Total Refinery Throughputs	2	20%	Total	2			Х				Х			
Bitumen Recovery	1	10%	Total	1								х		
Chemical Sales Volume	1	10%	Total	1			Х							
Crude Oil Production	1	10%	Total	1								х		
Gross Crude Oil & NGL Production	1	10%	Total	1			x							
Gross Natural Gas Production	1	10%	Total	1			Х							
Hydrocarbons Produced	1	10%	Total	1							Х			
ISO 14001 - Certified Environmentally Sensitive Sites	1	10%	Total	1									x	
			Total	1									х	
ISO 14001 - Certified Sites	1	10%	By Operation/Business Area	1									х	
Leaks/1,000 km pipeline	1	10%	By Operation/Business Area	1		x								
Operated Sites	1	10%	Total	1									х	
Operational Management System Implementation	1	10%	Total	1							x			
Pipeline Failures	1	10%	Total	1		х								
Pipeline Failures/Per 1,000 km pipeline	1	10%	Total	1		x								
Production Volumes	1	10%	By Operation/Business Area	1				х						
Repairs due to in-service failures vs. Repairs found on planned inspections	1	10%	Total	1		х								
Replacement Cost Profit (loss)	1	10%	Total	1							х			
Reserves Replacement Ratio	1	10%	Total	1							х			
Sales	1	10%	Total	1									x	
Sites presenting technological risks with SMS's (Safety Management System) audited using recognized protocols	1	10%	Total	1									x	
Total Petrochemicals Production	1	10%	Total	1							Х			
Upgrading Yield	1	10%	Total	1								х		

Appendix 4: 2014 Indicator Database

					Cenovus	Neven	Canadian	Imperial	Suncor	Shell	Conoco	BD	Devon	Statoil	Synrude	Total	Teck
					Centovus	Nexen	Resources	Oil	Energy	Sileil	Phillips	DF	Devon	Staton	Symule	Total	TECK
					1	ENVIRON	MENTAL										
Indicator	Total F	Reports	Sub- Category	Sub- Category Total						EMISSIONS	/AIR - 42 IND	ICATORS					
			Total	8		х		х	х	х	х				х	х	х
GHG/CO2 _e Emissions	8	62%	By Operation / Business	1					x								
			Total	4	х									х	х	х	
Gas Flaring	7	54%	By Operation /Business Area	3			х	x				х					
			Total	4	х			х						х	х		
NO _x Emissions	6	46%	By Operation / Business	2			х										x
			Total	4	x					х		х					x
Direct GHG/CO2 _e Emissions	5	38%	By Operation /Business Area	3	×		x			x							
SO ₂ Emissions	5	38%	Total	5	х			х						х	х	х	
			Total	3					х	х	х						
			By Operation / Business Area	1				x									
GHG/CO2e Emissions Intensity	4	31%	Excluding construction	1						х							
,	-		Including Offsets	1						х							
			Including Offsets Excluding construction emissions	1						x							
			Total	2				v		v							v
Indirect GHG/CO2 _e Emissions	4	31%	By Operation / Business	3				^		^							^
-			Area	2			х			х							
			Total	1	х												
Direct GHG/CO2 _e Emissions Intensity	3	23%	By Operation / Business Area	2	x		x										
			Cogeneration	1				<u>x</u>									
			Total	2				x							x		
Volatile Organic Compounds (VOCs) - Emissions	3	23%	By Operation /Business Area	1													x
Direct Carbon Dioxide CO ₂	2	15%	Total	2								х		х			
	-		Total	1	х												
Gas Venting	2	15%	By Operation / Business	1			х										
GHG Emissions by Type	2	15%	Ву Туре	2											х		х
			Total	2	х										х		
NO _x Emissions Intensity	2	15%	By Operation / Business Area	1	x												
PM10 – Particulate matter <= 10 microns	2	15%	Total	2											х		x
PM2.5 – Particulate matter <= 2.5 microns	2	15%	Total	2											х		x
SO ₂ Emissions Intensity	2	15%	Total	2	х										х		
SO _x Emissions	2	15%	By Operation /Business Area	2			х										x
Air Emissions - Includes S02. NOx.			Total	1					х								
voc	1	8%	By Operation /Business Area	1					x								
Ambient Air Exceedences	1	8%	Total	1											x		
Annual Average Direct CO ₂ Intensity	1	8%	Total	1										x			
Carbon Intensity in Product	1	8%	By Product	1													х

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
			-	-		ENVIRON	MENTAL										
Indicator	Total I	Reports	Sub- Category	Sub- Category Total						EMISSIONS	/AIR - 42 IN	DICATORS					
Carbon Monoxide (CO) Emissions	1	8%	By Operation /Business Area	1													х
Cumulative mass of CO ₂ stored	1	8%	Total	1	х												
Customer Emissions	1	8%	Total	1								х					
Direct GHG Emissions from Fuel Consumption	1	8%	By Operation /Business Area	1			х										
Direct Methane	1	8%	Total	1								х					
Diverter Stack Usage	1	8%	Total	1											х		
Flaring Intensity	1	8%	Total	1											Х		
Hydrocarbon flaring	1	8%	Total	1				х									
Indirect Carbon Dioxide CO ₂	1	8%	Total	1								х					
Main stack nitrogen oxides	1	8%	Total	1											Х		
Main stack opacity	1	8%	Total	1											Х		
Main Stack Sulphur Dioxide SO ₂	1	8%	Total	1											х		
Mercury (Hg) Emissions	1	8%	By Operation /Business Area	1													х
Odour Incidents	1	8%	Total	1											Х		
Ozone-Depleting Substances	1	8%	Total	1											Х		
Particulate Matter PM	1	8%	Total	1											х		
Solution gas recovery from oil production	1	8%	Total	1				x									
Sour Gas Diverting	1	8%	Total	1											Х		
Sour Gas Flaring	1	8%	Total	1											х		
Steam to oil ratio (SOR)	1	8%	By Operation /Business Area	1	x												
Volatile Organic Compounds (VOCs) - Emissions Intensity	1	8%	Total	1											x		

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	ВР	Devon	Statoil	Synrude	Total	Teck
						ENVIRON	MENTAL										
Indicator	Total F	Reports	Sub- Category	Sub- Category Total						ENERGY	- 13 INDIC/	TORS					
			Total	4	х			х							Х		х
Energy Use	4	31%	By Operation / Business Area	1	х												
			Total	2										Х			Х
Electricity Consumption	3	23%	By Operation / Business Area	1			х										
Energy Consumption by Fuel	2	15%	Total	2								Х					Х
			Total	2	Х										Х		
Energy Intensity	2	67%	By Operation / Business Area	1	х												
Countries Selling Awango by Total	1	8%	Total	1												х	
Energy Consumption by Type	1	8%	Total	1													х
Energy Efficiency of Facilities	1	8%	Index	1												х	
Energy Intensity in Product	1	8%	By Product	1													х
Energy Intensity Reduction	1	8%	Compared to Baseline	1											х		
EROEI (Energy Returned on Energy Invested)	1	8%	Total	1											x		
Fuels Refining Energy Intensity	1	8%	Normalized Index	1				х									
Installed Wind Capacity	1	8%	Total	1					х								
Natural Gas Consumption	1	8%	Total	1										х			

					Cenovus	Nexen	Canadian Natural	Imperial	Suncor	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
					l	ENIX/DON	Resources	01	Energy								
				Sub-		ENVIRON	MENTAL										
Indicator	Total F	leports	Sub- Category	Category						WATER	- 33 INDICA	TORS					
		1	Total	Total	v			v						×			v
Fresh water Use/Consumption	5	38%	By Operation /Business		^			<u> </u>						Λ			^
			Area	4	x			x		x							x
F		24.00	Total	2	х										х		
Fresh Water Use Intensity	4	31%	By Operation / Business	3	х					х							x
			Total	1											х		
Fresh Water Withdrawal	2	15%	By Operation /Business	1			x										
			Area	-	v						v						
	-	4 50/	By Operation /Business		~												
Saline Water Use/Consumption	2	15%	Area	1	x												
			By Geography	1							х						
Athabasca River Water Intensity	1	8%	Area	1						х							
Athabasca River water	1	9%	By Operation /Business	1						v							
withdrawal/Consumed	-	876	Area	-						~							
Brackish, non-potable Water Withdrawal	1	8%	By Operation / Business	1			х										
Disposal water	1	8%	Total	1										х			
Groundwater and surface runoff	1	8%	By Operation /Business	1						x							
consumption	_		Area	_													
water	1	8%	Total	1												х	
Mine Recycle Water Use	1	8%	By Operation /Business Area	1						x							
Net Fresh Water Cosnumption	1	8%	By Operation /Business	1						х							
-			Total	1							х						
Non Saline Groundwater	1	8%	By Operation /Business	1							х						
Use/Consumption			Area By Geography	1							x						
		0.01	By Operation /Business								~						
Oil Water Content	1	8%	Area	1			X										
Process Water Recycled	1	8%	Total	1										v	X		
Produced water Recycled	1	6%	Total	1							х			^			
Produced Water Lise	1	8%	By Operation /Business	1							x						
	-	0,0	Area	-							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						
			By Operation /Business	1							^						
Recycled Pond Water Use	1	8%	Area	1						х							
Reportable Spills to Natural Water Bodies	1	8%	Total	1											x		
			Total	1	х												
Saline Water Use Intensity	1	8%	By Operation /Business	1	x												
			Total	1							х						
Surface Water Use/Consumption	1	8%	By Operation /Business	1							x						
	-	0,0	Area	-							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						
Total Effluent Treated &			By Operation /Business	1							X						
Returned to the River	1	8%	Area	1						x							
Total Water Discharge	1	8%	By Operation /Business	1			x										
Total water inputs	1	8%	Area	1			-										×
Total water outputs	1	8%	Total	1													x
Treated Water Returned to the	1	8%	Total	1											x		
Athabasca River – Sanitary	-	570		· ·													

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	ВР	Devon	Statoil	Synrude	Total	Teck
						ENVIRON	MENTAL										
Indicator	Total R	eports	Sub- Category	Sub- Category Total						WATER	- 33 INDICA	TORS					
			Total	1		Х											
Water Consumption/Use	1	8%	By Operation /Business Area	1		X											
Water Discharge Quality Exceedences (Industrial Process)	1	8%	Total	1											х		
Water Discharge Quality Exceedences (Treated Sanitary)	1	8%	Total	1											х		
Water Quantity Processed/Produced	1	8%	By Operation /Business Area	1													x
Water Returned to the Athabasca River – Other	1	8%	Total	1											x		
Water Reused/Recycled	1	8%	Total	1													х
Water Withdrawal	1	8%	Total	1					x								

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
						ENVIRON	IMENTAL										
Indicator	Total F	Reports	Sub- Category	Sub- Category Total						LAND	- 38 INDICA	TORS					
			Total	2	Х										Х		
Reportable Volume Spilled	4	31%	By Operation /Business Area	2	x		x										
			Total	1											х		
Footprint	3	23%	By Operation /Business Area	2						x	х						
			Total	1											х		
Land Disturbed	3	23%	By Operation /Business Area	2					x								x
Fines Capture	2	15%	By Operation /Business Area	2						х					х		
Land Reclaimed	2	15%	By Operation /Business Area	2					х								х
Oil Spills (>= one barrel)	2	15%	Total	2								х				х	
Oil Spills - Volume (>= one barrel)	2	15%	Total	2								x				х	
			Total	1											Х		
Permanent reclamation	2	15%	By Operation /Business Area	1						x							
			Total	1	х												
Reportable Spills	2	15%	By Operation /Business Area	2	х		x										
			Total	1											х		
Temporary reclamation	2	15%	By Operation /Business Area	1						х							
Active Operated Wells	1	8%	Total	1			х										
Area of Land yet to be Reclaimed	1	8%	Total	1													x
Coarse Coal Refuse	1	8%	Total	1													Х
Faster Forest Cumulative - Sites	1	8%	Total	1							х						
Faster Forest Cumulative - Trees Planted	1	8%	Total	1							x						
Fluid Fine Tailings	1	8%	By Operation /Business Area	1						х							
Inactive Operated Wells	1	8%	Total	1			x										_

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
			-		-	ENVIRON	MENTAL										
Indicator	Total F	Reports	Sub- Category	Sub- Category Total						LAND	- 38 INDICA	FORS					
Land Cleared	1	8%	Total	1											х		
Losses of primary containment	1	8%	Total	1								х					
Oil & Chemical Spills	1	8%	Total	1				х									
Oil & Chemical Spills - Volume	1	8%	Total	1				х									
Oil Spills - Land & Water (>= one barrel)	1	8%	Total	1								x					
Oil Spills Volume	1	8%	Total By Operation /Business Area	1		x x											
Reclamation Certificates Submitted	1	8%	Total	1			х										
Reclamation material moved	1	8%	Total	1											х		
Seedlings planted	1	8%	Total	1										Х			
Significant Spills	1	8%	Total	1													х
Soils placed – land available for revegetation	1	8%	Total	1											х		
Spills	1	8%	Total By Operation /Business Area	1		x											
Spills and Leaks/Production	1	8%	By Operation /Business Area	1			х										
Tailings - Dry	1	8%	Total	1													Х
Trees/Shrubs Planted	1	8%	Total	1											Х		
Volume of Oil Unrecovered	1	8%	Total	1								х					
Volume Spilled or leaked/production	1	8%	By Operation /Business Area	1			x										
Waste rock	1	8%	Total	1													х
Wells Abandoned	1	8%	Total	1			х										
Wildlife Incidents - Avian	1	8%	Total	1											х		
Wildlife Incidents - Other Animal	1	8%	Total	1											х		

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
						ENVIRON	MENTAL										
Indicator	Total F	Reports	Sub- Category	Sub- Category Total						WASTE	- 16 INDICA	TORS					
	_		Total	1				х									
Hazardous Waste	2	15%	By Operation / Business Area	1			х										
Non-Hazardous Waste - On-Site Disposal	2	8%	Total	2											х		x
Hazardous Waste - On-Site Disposal	1	8%	Total	1													x
Hazardous Waste Recycled	1	8%	Total	1													Х
Hazardous Waste Sent Off-Site - Not Recycled	1	8%	Total	1													х
Hazardous/Potentially Hazardous Materials - Offsite Recycling - Solid	1	8%	Total	1											x		
Hazardous/Potentially Hazardous Materials - Offsite Treatment/ Destruction - Liquid	1	8%	Total	1											х		
Hazardous/Potentially Hazardous Materials - Offsite Treatment/ Destruction - Solid	1	8%	Total	1											x		
Non-Hazardous Waste	1	8%	By Operation /Business Area	1			x										
Non-Hazardous waste Off Site Disposal	1	8%	Total	1											х		
Non-Hazardous Waste Recycled	1	8%	Total	1													Х
Non-Hazardous Waste Recycled/Reused – Liquid	1	8%	Total	1											x		
Non-Hazardous Waste Recycled/Reused – Solid	1	8%	Total	1											х		
Non-hazardous Waste Sent Off- Site - Recycled	1	8%	Total	1													х
Sanitary Non-Hazardous Disposal – Off-Site	1	8%	Total	1											х		
Sanitary Non-Hazardous Disposal – On-Site	1	8%	Total	1											х		

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	ВР	Devon	Statoil	Synrude	Total	Teck
						ENVIRON	MENTAL										
Indicator	Total	Reports	Sub- Category	Sub- Category Total					ENVIRONI	MENTAL VIO	LATIONS/O	THER - 9 IND	ICATORS				
Environmental Fines & Penalties	2	15%	Total	2				х							х		
Environmental Regulatory/ Compliance Incidents	2	15%	Total	2				x							x		
BP's Payments Related to Gulf Coast Recovery	1	8%	Total	1								х					
Environmental and Safety Fines	1	8%	Total	1								х					
Environmental Exceedance Incidents	1	8%	Total	1				х									
Environmental Protection Orders	1	8%	Total	1											x		
Environmental Regulatory or	1	8%	Total	1		x											
Permit Violations	1	876	By Operation /Business Area	1		х											
Permit Non-Compliance	1	8%	Total	1													х
Regulatory Non-Compliance	1	8%	Total	1													x

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
						SOC	IAL										
Indicator	Total F	Reports	Sub- Category	Sub- Category Total				c	OMMUNITI	ES/CHARITA	BLE INVOLV	EMENT - 7 II	NDICATORS				
			Total	5	х			х				х		х			x
Investments to the Community	5	38%	By Geography	2								х					х
	I		By Focus Area	2	х												х
Corporate Donations	1	8%	Total	1											х		
Feedback Received by Communities of Interest - By Topic Category	1	8%	Total	1													x
Significant Feedback Received by Communities of Interest - By Topic Category	1	8%	Total	1													x
Social investment spend	1	8%	Total	1	1					Х							
United Way Contributions	1	8%	Total	1				Х									
Volunteer Hours	1	8%	Total	1				х									

						Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	ВР	Devon	Statoil	Synrude	Total	Teck
						SOC	IAL										
Indicator	Indicator Total Reports Sub- Category Total								В	USINESS INT	egrity - 5 if	NDICATORS					
Anonymous submissions to EthicsPoint	1	8%	Total	1											х		
Business Conduct Investigations	1	8%	Total	1	х												
Integrity Helpline Intakes	1	8%	Total	1	Х												
OpenTalk Cases	1	8%	Total	1								х					
Progress Towards Implementing the United Nations Guiding Principles on Business and Human Rights	1	8%	Total	1													x

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	вр	Devon	Statoil	Synrude	Total	Teck
						soc	IAL		I								
Indicator	Total F	Reports	Sub- Category	Sub- Category Total						EMPLOYE	ES - 36 INDI	CATORS					
On-Site Workforce	2	15%	Total Ru Condon	2	x										х		
	1	00/	By Gender	1	^										v		
Aboriginals by Job Type	1	8%	l eadershin	1											×		
Annual Scholarships, Bursaries		070	Leadership	-											A		
and Endowments	1	8%	Total	1											х		
			Total	1											X		
Average Employee Service	1	8%	Women	1											<u>X</u>		
Construction Craft House		00/	Aboriginal	1											X		
Education Assistance Drogram	1	8%	Total	1				×							Χ.		
Education Assistance Program	1	8%	Total	1													
Program (EFAP) Utilization	1	8%	Total	1											х		
Employees Covered by Collective Bargaining Agreements	1	8%	Total	1								x					
Employees - Office	1	8%	Total	1	х												
Employees - Office	-	0,0	By Gender	1	х												
Group Priorities Index	1	8%	Index	1								х					
Hours in Training Per Employee/Per Annum	1	8%	Total	1											x		
Job Applications Received	1	8%	Total	1											х		
Leaders completed diversity	1	8%	Total	1											x		
Leaders completed harassment and discrimination awareness training	1	8%	Total	1											x		
Leaders completed training	1	8%	Total	1											x		
Local Hires	1	8%	Total	1											х		
New Hire Acceptance Rate	1	8%	Total	1											х		
Number of Tuition Refunds to Syncrude Employees	1	8%	Total	1											x		
Numbers of Employee Student	1	8%	Total	1											х		
Pension Plan Participation	1	8%	Total	1													¥
People from Beyond the UK and	1	8%	Leaderships	1								х					~
People from UK and US Racial	1	8%	Leadership	1								x					
Ratio of standard Entry Level	1	8%	Ratio	1											х		
Wage to Minimum Wage Scholarship for Employee		001						~									
Dependants Sources of Skilled Trados	1	8%	lotai	1				X									
Maintenance & Construction Workers	1	8%	Canada vs. Temporary Foreign Workers	1											x		
Thousand Barrels of Production per Employee	1	8%	Total	1											x		
Turne Date		00/	Total Turnover	1													х
Turnover Kate	1	8%	Voluntary	1													х

						Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
		SOC	IAL														
Indicator						ABORIGIN	ALS - 4 INDI	CATORS									
Aboviainal Rusiness Coording	4	219/	Total	3	х	X X											
Aboriginal Business Spending	4	31%	By Category	1							х						
Aboriginal spend	1	8%		1						Х							
Procurement of goods & services from Aboriginal businesses	1	8%	Total	1	x												
Significant disputes relating to land use & the customary rights of local communities & Indigenous Peoples	1	8%	Total	1													x

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck	
						soc	IAL											
Indicator	Total F	Reports	Sub- Category	Sub- Category Total	HEALTH & SAFETY - 27 INDICATORS													
			Total	10	x	х				x	x	x	x	x	x	x	x	
Recordable Injury	12	959/	Employees	2				х							х			
Frequency/Rate	12	65%	Contractors	2				х							х			
			By Operation/Business Area	2			x							x				
			Total	7	х	х	х			х					х	Х	х	
Lost Time Injury Frequency/Rate	9	69%	Employees	3				Х	Х						х			
			Contractors	3				х	х						х			
			Total	2				Х									Х	
			Employees	2								х			Х			
			Contractors	2								х			х			
Fatalities	5	38%	By Operation/Business Area - Workforce	1			x											
			By Operation/Business Area - Contractors	1			x											
			Total	3						х					х		х	
Lost time Injuries	3	23%	Employees	1											X			
			Contractors	1											х			
			Total	3						х		х			х			
Recordable Injuries	3	23%	Employees	1											х			
-			Contractors	1											х			
			Total	2			х			х								
Exposure Hours	2	15%	By Operation/Business Area	1			х											
			Total	2											х		х	
Injury Severity Rate	2	15%	Employees	1											х			
			Contractors	1											х			
Vehicle Incidents	2	15%	Total	2							х	х						
Days away from work case frequency (DAWFCF)	1	8%	Total	1								х						
Days away from work cases	1	8%	Total	1								х						
Disability Management Visits	1	8%	Total	1											х			
Fatal incident rate (FIR)	1	8%	Total	1												Х		
Health and Safety Convictions	1	8%	Total	1											х			
Health Centre Visits	1	8%	Total	1											х			
High-Potential Incident	1	8%	Total	1													х	
Injuries - Workforce	1	8%	Total	1							x							
Injury-Free Performance – Maximum Hours Between LTIS	1	8%	Total	1							~				х			

		Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	вр	Devon	Statoil	Synrude	Total	Teck			
						SOC	IAL										
Indicator	Total F	Reports	Sub- Category	Sub- Category Total		HEALTH & SAFETY - 27 INDICATORS											
New Long-Term Disability (LTD) Cases	1	8%	Total	1											x		
Off-Site Responses by Emergency Services	1	8%	Total	1											х		
On-Site Responses by Emergency Services	1	8%	Total	1											х		
Preventable Vehicle Incident Rate	1	8%	Employees	1									х				
			Contractors	1										х			
Serious Incidents Frequency (SIF)	1	8%	By Operation/Business Area	1										x			
SH&E Professionals on Staff	1	8%	Total	1											Х		
Temporary Disability Absenteeism	1	8%	Total	1											x		
Tier 1 process safety events	1	8%	Employees	1								х					
Tier 2 process safety events	1	8%	Total	1								х					
Workforce Represented in Formal Joint Management- Worker H&S Committees	1	8%	Total	1											x		

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
						ECON	OMIC			1							
Indicator	licator Total Reports Sub- Category									FINANCI	AL - 22 INDIC	ATORS					
Employee Benefits (i.e.			Total	5	х			х				х			х		х
Salaries/Bonuses/Short-Term Benefits)	5	38%	By Geography	1													x
Capital Expenditures	4	31%	Total	3	Х	Х									Х		
			By Area	1	v			v				v	x				v
Dividends	4	31%	By Geography	4	X			X				X					x
Revenues	3	15%	Total	3									х		х		Х
		1070	By Geography	1													х
Taxes	3	23%	Total	3	х							Х					X
			By Geography Total	1											v		X
Economic Value Distributed	2	15%	By Geography	2											x		x
	_		Total	2											x		x
Economic Value Retained	2	15%	By Geography	1													х
Environmental Expenditures	2	15%	Total	2				х				х					
Interest Expense	2	15%	Total	2	х												х
	-	15/0	By Geography	1													х
Operating Costs	2	15%	Total	2	-										х		Х
	_		By Geography	1													Х
Payments for Goods & Services	2	15%	Total	2				Х							Х		
Research & Development Investment	2	15%	Total	2			х								x		
Royalties	2	15%	Total	1	х												
Total Royalties & Income Taxes	2	15%	Total	2		Х		х									
Capital & Exploration Expenditures	1	8%	Total	1				x									
Capital Budget - Exploration & Production	1	8%	By Operation/Business Area	1									x				
Common Shares Outstanding	1	8%	Total	1				х									
Political Contributions	1	8%	Total	1				х									
Purchased Energy	1	8%	Total	1											х		
Royalties, Payroll & Municipal Taxes	1	8%	Total	1											x		
Secondary & other post- employment costs	1	8%	Total	1	х												
Spending on Locally Based Suppliers	1	8%	By Operation/Business Area	1													х

					Cenovus	Nexen	Canadian Natural Resources	Imperial Oil	Suncor Energy	Shell	Conoco Phillips	BP	Devon	Statoil	Synrude	Total	Teck
						ECON	оміс										
Indicator	Total	Reports	Sub- Category	Sub- Category Total	OPERATIONS - 20 INDICATORS												
Bitumen Produced	2	15%	Total	2										х	х		
Annual Production	1	8%	Total	1									Х				
Bitumen Production (steam-oil ratio or SOR)	1	8%	Total	1										х			
Bitumen Recovery	1	8%	Total	1											х		
Crude Oil Production	1	8%	Total	1											х		
Cumulative SOR (CSOR)	1	8%	Total	1										Х			
Gross Crude Oil & NGL Production	1	8%	Total	1				х									
Gross Natural Gas Production	1	8%	Total	1				х									
Hydrocarbons Produced	1	8%	Total	1								Х					
Leaks/1,000 km pipeline	1	8%	By Operation/Business Area	1			х										
Production Mix	1	8%	Total	1									х				
Production Volumes	1	8%	By Operation/Business Area	1					х								
Proved Reserves	1	8%	Total	1									Х				
Realized SCO Selling Price	1	8%	Total	1											х		
Replacement Cost Profit (loss)	1	8%	Total	1								х					
Reserves Replacement Ratio	1	8%	Total	1								х					
Total Petrochemicals Production	1	8%	Total	1								х					
Total Refinery Throughputs	1	8%	Total	1								х					
Upgrading Yield	1	8%	Total	1											х		
Wells Drilled - By Project	1	8%	Total	1										х			

6 References

- Adams, C. A. (2002). Internal organisational factors influencing corporate social and ethical reporting: Beyond current theorising. *Accounting, Auditing and Accountabiliy Journal*, 15(2), 223-250.
- Adams, C. A., and Frost, G. R. (2008). Integrating sustainability reporting into management practices. *Accounting Forum*, 32(4), 288-302.
- Al-Sharrah, G., Elkamel, A., and Almanssoor, A. (2010). Sustainability indicators for decision-making and optimisation in the process industry: The case of the petrochemical industry. *Chemical Engineering Science*, 65(4), 1452-1461.
- Asaolu, T. O., Agboola, A. A., Ayoola, T. J., and Salawu, M. K. (2011). *Sustainability Reporting in the Nigerian Oil and Gas Sector.* Abeokuta: Proceedings of the Environmental Management Conference, Federal University of Agriculture.
- Association of Chartered Certified Accountants. (2004). *Towards transparency:* progress on global sustainability reporting 2004. London: Certified Accountants Educational Trust.
- Auty, R. M. (2004). *Resource Abundance and Economic Development.* Oxford Scholarship Online.
- Azapagic, A. (2004). Developing a framework for sustainable development indicators for the mining and minerals industry. *Journal of Cleaner Production*, 12(6), 639-662.
- Bassen, A., and Kovács, A. M. (2008). Environmental, Social and Governance Key Performance Indicators from a Capital Market Perspective. *Zeitschrift für Wirtschafts- und Unternehmensethik*, 9(2), 182-192.
- Bebbington, J., Higgins, C., and Frame, B. (2009). Initiating sustainable development reporting: evidence from New Zealand. *Accounting, Auditing and Accountability Journal*, 22(4), 588-625.
- Bell, S., and Morse, S. (2008). *Sustainability Indicators: Measuring the Immeasruable?* London: Earthscan.
- Boiral, O., and Henri, J.-F. (2015). Is Sustainability Performance Comparable? A Study of GRI Reports of Mining Organizations. *Business and Society*, 1-35.
- Brockett, A., and Rezaee, Z. (2012). *Corporate Sustainability: Integrating Performance and Reporting.* Hoboken: John Wiley and Sons, Inc.

- Brown, H. S., de Jong, M., and Lessidrenska, T. (2009). The rise of the Global Reporting Initiative: a case of institutional entrepreneurship. *Environmental Politics*, 18(2), 182-200.
- Canadian Association of Petroleum Producers. (2016). *Home*. Retrieved January, 2016 from http://www.capp.ca/
- Canadian Oil Sands Innnovation Alliance a. (2016). *About COSIA*. Retrieved January, 2016 from http://www.cosia.ca/about-cosia
- Canadian Oil Sands Innovation Alliance b. (2016). *Focus Areas*. Retrieved January 2016, from http://www.cosia.ca/focus-areas
- Canadian Oil Sands Inovation Alliance c. (2016). *Members*. Retrieved January, 2016 from http://www.cosia.ca/about-cosia/members
- Certified General Accountants Association of Canada. (2005). *Measuring Up: A Study* of Corporate Sustainability Reporting in Canada.
- Commission of the European Communities. (2001). *Promoting a European framework for Corporate Social Responsibility.* Brussels.
- Commission of the European Communities. (2002). Communication from the Commission Concerning Corporate Social Responsibility: A business contribution to Sustainable Development. Brussels.
- Cowell, S. J., Wehrmeyer, W., Argust, P. W., and Robertson, J. G. S. (1999). Sustainability and the primary extraction industries: theories and practice. *Resources Policy*, 25(4), 277-286.
- Dahlsrud, A. (2008). How Corporate Social Responsibility is Defined: an Analysis of 37 Definitions. *Wiley InterScience*, 15(1), 1-13.
- Daly, H. E. (1996). *Beyond Growth: The Economics of Sustainable Development.* Boston: Beacon Press.
- Daub, C.-H. (2007). Assessing the quality of sustainability reporting: an alternative methodological approach. *Journal of Cleaner Production*, 15, 75-85.
- DiMaggio, P. J., and Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields . *American Sociological Review*, 48(2), 147-160.

- Deegan, C. (2007). Organizational legitimacy as a motive for sustainability reporting. In
 J. Bebbington, J. Unerman, and B. O'Dwyer, *Sustainability Accounting and Accountability* (pp. 127-149). London: Routledge.
- Deegan, C., and Gordon, B. (1996). A Study of the Environmental Disclosure Practices of Australian Corporations. *Accounting and Business Research*, 26(3), 187-199.
- Dresner, S. (2002). The Principles of Sustainability. London: Earthscan.
- Elkington, J. (1998). *cannibals with Forks: The Triple Bottom Line of 21st Century Business.* Stony Creek: New Society Publishers.
- Epstein, M. J. (2008). *Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts.* San Francisco: Berrett-Koehler Publisher Inc.
- Eve, G. (2012). Sustainability Reporting in the Oil Sands: A Narrative Analysis of Energy Company Approaches to Sustainable Development. Peterborough: Thesis submitted to Committee on Graduate Studies at Trent University.
- Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach.* Pitman Publishing.
- Friedman, M. (1970, September 13). The Social Responsibility of Business is to Increase Profits. *The New York Times Magazine*.
- Gallego, I. (2006). The Use of Economic, Social and Environmental Indicators as a Measure of Sustainable Development in Spain . *Corporate Social Responsibility and Environmental Management*, 13, 78-97.
- Government of Alberta. (2016). *Oil Sands*. Retrieved January 16, 2016, from http://www.energy.alberta.ca/ourbusiness/oilsands.asp
- Government of Canada. (2013, March 21). *The Canadian Environmental Protection Act, 1999 and the National Pollutant Release Inventory*. Retrieved July 25, 2015 from Environment and Climate Change Canada: https://www.ec.gc.ca/lcpecepa/default.asp?lang=Enandn=CEE0E728-1
- Government of Canada. (2016, January 21). Public Accountability Statements (Banks, Insurance Companies, Trust and Loan Companies) Regulations SOR/2002-133. Retrieved July 25, 2015 from Justice Laws Website: http://lawslois.justice.gc.ca/eng/regulations/SOR-2002-133/FullText.html

- Global Reporting Initiative a. (2013). *An Introduction to G4: The Next Generation of Sustainability Reporting*. Retrieved January, 2016 from https://www.globalreporting.org/resourcelibrary/GRI-An-introduction-to-G4.pdf
- Global Reporting Initiative b. (2013). *G4 Sustainability Reporting Guidelines*. Retrieved January, 2016 from https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf
- Global Reporting Initiative. (2014). *Foward Thinking Future Focus.* Amsterdam. Retrieved January, 2016 from https://www.globalreporting.org/resourcelibrary/GRI-CombinedReport-2013-2014-forward-thinking-future-focus.pdf
- Global Reporting Initiative a. (2016). *G4 Sector Disclosures*. Retrieved January, 2016 from https://www.globalreporting.org/standards/sectorguidance/sectorguidanceG4/Pages/default.aspx
- Global Reporting Initiative b. (2016). *What is GRI?* Retrieved January, 2016 from https://www.globalreporting.org/information/about-gri/what-is-GRI/Pages/default.aspx
- Gray, R., and Milne, M. J. (2002). *Sustainability Reporting: Who is kidding whom?* Dunedin: Centre for Social and Environmental Accounting Research. Retrieved January, 2016 from https://www.st-andrews.ac.uk/media/csear/discussionpapers/CSEAR_dps-sustain-whoskidding.pdf
- Hatch, M. J., and Cunliffe, A. L. (2013). *Organization Theory: modern, symbolic and postmodern perspectives.* Oxford: Oxford University Press.
- Hayward, S. F. (2002). Making Sense of Sustainable Development. *National Center for Policy Analysis: Brief Analysis No. 422.*
- House of Commons Canada. (2014). *The Cross-Canada Benefits of the Oil and Gas Industry: Report of the Standing Committee on Natural Resources.* Retrieved January, 2016 from http://www.parl.gc.ca/content/hoc/Committee/412/RNNR/Reports/RP6644319/rn nrrp07/rnnrrp07-e.pdf
- International Institue for Sustainable Development. (1992). *Business Strategy for Sustainable Development.* Winnipeg. Retrieved January, 2016 from https://www.iisd.org/business/pdf/business_strategy.pdf

International Petroleum Industry Environmental Conservation Association. (2015). Oil and gas industry guidance on voluntary sustainability reporting. Retrieved January, 2016 from

http://www.api.org/~/media/Files/EHS/Environmental_Performance/voluntarysustainability-reporting-guidance-2015.pdf?la=en

- International Petroleum Industry Environmental Conservation Association. (2016). *Sustainability Reporting*. Retrieved January, 2016 from http://www.ipieca.org/focus-area/reporting
- Investopedia. (2016). *Key Performance Indicator KPI*. Retrieved January, 2016 from http://www.investopedia.com/terms/k/kpi.asp
- Keeble, J. J., Topiol, S., and Berkeley, S. (2003). Using Indicators to Measure Sustainability Performance at a Corporate and Project Level. *Journal of Business Ethics*, 44, 149-158.
- KPMG. (2013). The KPMG Survey of Corporate Responsibility Reporting 2013. Retrieved June, 2015 from https://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporat e-responsibility/Documents/kpmg-survey-of-corporate-responsibility-reporting-2013.pdf
- Krippendorff, K. (2013). *Third Edition Content Analysis An Introduction to It's Methodology.* United States of America: Sage.
- Liebenthal, A., Michelitsch, R., and Tarazona, E. (2005). *Extractive Industries and Sustainable Development: An Evaluation of World Bank Group Experience.* Washington: The World Bank. Retrieved July 2015, from http://wwwwds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2005/06/21/00 0090341_20050621121829/Rendered/PDF/32671.pdf
- Malthus, T. (1798). *An Essay on the Principle of Population.* London : Printed for J. Johnson, in St. Paul's Church-Yard.
- Marrewijk, M. v. (2003). Concepts and Definitions of CSR and Corporate Sustainability: Between Agency and Communion. *Journal of Business Ethics*, 44(2), 95-105.
- McElroy, M. W., Jorna, R. J., and Engelen, J. V. (2008). Sustainability Quotients and the Social Footprint. *Corporate Social Responsibility and Environmental Management*, 15(4), 223-234.

- Meadowns, D. H., Meadows, D. L., Randers, J., and Behrens III, W. W. (1972). *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. New York: Universe Books.
- Merriam-Webster Dictionary. (2016, February). *Indicator*. Retrieved February, 2016 from: http://www.merriam-webster.com/dictionary/indicator
- Merriam-Webster Dictionary. (2015). *Inference*. Retrieved August, 2015 from http://www.merriam-webster.com/dictionary/inference
- Moneva, J. M., Archel, P., and Correa, C. (2006). GRI and the camouflaging of corporate unsustainability. *Accounting Forum*, 30, 121-137.
- Moon, J. (2007). The Contribution of Corporate Social Responsibility to Sustainable Development. *Sustainable Development*, 15(5), 296-306.
- Nooten, G. A. (2007). USGS Online Publications Directory. Retrieved January, 2016 from United States Geological Survey http://pubs.usgs.gov/circ/2007/1294/reports/paper6.pdf
- Palme, U., and Tillman, A.-M. (2008). Sustainable development indicators: how are they used in Swedish water utilities? *Journal of Cleaner Production*, 16(13), 1346-1357.
- Pfeffer, J., and Salancik, G. R. (1978). *The external control of organizations: A Resource Dependence Perspective.* New York: Harper and Row, Publishers.
- Poveda, C. A. (2015). The Canadian oil sands development: Management of land, air and water resources. *European Journal of Sustainable Development*, 4(2), 359-368.
- PricewaterhouseCoopers. (2007). *Guide to Key performance indicators: Communcating the measures that matter*.* United Kingdom. Retrieved June, 2015 from http://www.pwc.com/gx/en/audit-services/corporate-reporting/assets/pdfs/uk_kpi_guide.pdf
- PricewaterhouseCoopers. (2009). Corporate Sustainability Reporting in Canada: CFERF Executive Research Report. Toronto: Canadian Financial Executives Research Foundation . Retrieved June, 2015 from http://www.pwc.com/ca/en/sustainability/publications/corporate-sustainabilityreporting-canada-2009-en.pdf
- Rahdari, A. H., and Rostamy, A. A. (2015). Designing a general set of sustainability indicators at the corporate level. *Journal of Cleaner Production*, 108, 757-771.

- Roca, L. C., and Searcy, C. (2012). An analysis of indicators disclosed in corporate sustainability reports. *Journal of Cleaner Production*, 20(1), 103-118.
- Schneider, J., Ghettas, S., Merdaci, N., Brown, M., Martyniuk, J., Alshehri, W., and Trojan, A. (2013). Towards Sustainability in the Oil and Gas Sector: Benchmarking of Environmental, Health, and Safety Efforts. *Journal of Environmental Sustainability*, 3(3), 103-117.
- Searcy, C., and Buslovich, R. (2014). Corporate Perspectives on the Development and Use of Sustainability Reports. *Journal of Business Ethics*, 121(2), 149-169.
- Searcy, C., McCartney, D., and Stanislav, K. (2008). Identifying Priorities for Action in Corporate Sustainable Development Indicator Programs. *Business Strategy and the Environment*, 17(2), 137-148.
- Steurer, R., Langer, M. E., Konrad, A., and Martinuzzi, A. (2005). Corporations, Stakeholders and Sustainable Development I: A Theoretical Exploration of Business–Society Relations. *Journal of Business Ethics*, 61(3), 263-281.
- Stratos. (2008). Canadian Corporate Sustainability Reporting: Best Practices 2008. Retrieved June, 2015 from http://www.stratos-sts.com/wpcontent/uploads/2013/04/2008_04_CSR-Best-Practices.pdf
- Sun, Q. (2011). Corporate Sustainability Commitment. Firm Charactersitics, and Stock Performance: Evidence from the Oil and Gas Industry. *Petroleum Accounting and Financial Management Journal*, 30(2), 62-79.
- Switzer, J., Lovekin, D., and Finigan, K. (2013). *Renewable Energy Opportunities in the oil and gas sector: Executive Summary.* Pembina Institute.
- Tilton, J. E. (1996). Exhaustible resources and sustainable development. *Resources Policy*, 22(1), 91-97.
- Turnhout, E., Hisschemöller, M., and Eijsackers, H. (2007). Ecological indicators: Between the two fires of science and policy. *Ecological Indicators*, 7(2), 215-228.
- United Nations. (1997). Glossary of Environment Statistics, Studies in Methods, Series F, No. 67. New York .
- Vogel, D. J. (2005). Is There a Market for Virtue? The Business Case for Corporate Social Responsibility. *California Management Review, 47*(4), 19-45.
- World Business Council for Sustainable Development. (1999). *Corporate Social Responsibility: Meeting Changing Expectations.* Geneva.

- World Business Council for Sustainable Development. (2002). Sustainable Development Reporting: Striking the Balance. Geneva.
- World Commission on Environment and Development (Brundtland, Gro Harlem). (1987). *Our Common Future.* Oxford: Oxford University Press. Retrieved February 2015, from http://www.un-documents.net/our-common-future.pdf