**Master of Science in Sustainable Management**


Course code: FE306E 003


**Oil Sand Leadership Initiative; A collaborative work to accommodate environmental standards and concerns**


**Lene Sjøbakk**


**Bodø, May 2010**

# Acknowledgement

This master thesis is a result of my final of Master in Science in Sustainable Management at Bodø Graduate School of Business. I thank everyone who has helped me throughout my work of this final thesis. I would like to give a special thanks to Bob Mitchell from ConocoPhillips that helped me get in touch with all my respondents in this study. I would also like to give a sincere thanks to my supervisor Jan Oddvar Sørnes. You have given me constructive feedback, and answered e-mails during the late evening from a frustrated student far away in Canada. Without your support and feedback, I would find this work much harder to accomplish.

I will finally gratitude all my interview respondents, and their willingness to help me in my work. Without them, this research would not be possible to carry out.

Bodø, 19.05.2010

# Abstract

This master thesis is a research of how the oil sand industry accommodates environmental standards and concerns in Canada, Alberta. I have examined this through five companies that work together through an alliance, Oil Sand Leadership Initiative (OSLI). The companies' creating this alliance is Statiol, Nexen, Total, ConocoPhillips and Suncor. In addition I will look into already written information within this industry. This is to give a review over the oil sand industry – what this is. The theoretical foundation is manly based upon a framework from Hansen (2009) of collaboration, where I also have reviewed a framework from Savitz and Webber (2006) where it is addresses how to achieve a long term business success. The different theoretical aspects are chosen in relation to my problem statement;

*"How does the OSLI consortium act in the oil sand industry to accommodate environmental standards and concerns?"*

The oil sand industry has received a lot of criticism from the public and some NGO's. Through this study I wanted to examine how the corporations perceive this industry, and by this how they act in relation to the different issues that occur here. Empirical data used in this study is conducted through interviews with the partners involved in OSLI. This gave me knowledge of how companies perceive the industry and how they want to meet the environmental standards and concerns.

The conclusion of this study is that OSLI search for achievement of BATEA (Best Available Technology Economically Achievable) to accommodate for the environmental standards and concerns. Stakeholders view within this industry is seen as important, where OSLI try to revolve the public perception of this industry. This is done by;

- Reduce water consumption

- Reduce emissions of green house gases

- Performance breakthrough through innovation (achievement through working groups)

- Knowledge sharing through collaboration

# Sammendrag

Denne masteroppgaven er en studie om hvordan oljesand industrien tilnærmer seg miljømessige hensyn i Canda, Alberta. Jeg har tatt for meg fem selskaper som samarbeider for en bedre fremtid med tanke på miljøhensyn i denne industrien. Denne gruppen er kaldt *Oil Sand Leadership Initiative* (OSLI) og er sammensatt av Statiol, Nexen, Total, ConocoPhillips og Suncor. I tillegg til å se på disse selskapene har jeg sett på annen fakta i forhold til denne industrien. Dette er for å gi et overblikk over olje sand industrien og for å skjønne hva det dreier seg om. Det teoretiske grunnlaget er i hovedsak basert på Hansen (2009) sitt rammeverk angående samarbeid, men jeg har også betraktet hvordan selskaper kan oppnå en langsiktig suksess, fra Savitz og Webber (2006) sitt rammeverk som angår dette. De forskjellige teoretiske tilnærmingene er valgt i forhold til min problemsitlling.

Hovedkonklusjonen er at OSLI ønsker å oppnå innovasjon hvor de bruker best tilgjengelig teknologi økonomisk oppnåelig, for å imøtekomme de miljømessige hensynene. Dette kan bli støttet opp av Hansens (2009) teoretiske rammeverk. Interessentene i denne industrien blir sett på som viktige, og deres syn blir betraktet når OSLI jobber med forskning og utvikling. OSLI vil nemlig snu bildet som allmenheten har angående olje sand. OSLI jobber mot å redusere vannbruk, redusere klimagasser, gjennombrudd i teknologiutvikling, som kan støttes av det teoretiske rammeverket til Savitz og Webber (2006). Målene og prestasjonen til OSLI blir gjonnomført via deres samarbeid og kunnskapsdeling.

# List of tables and figures

# Abbreviations

GHG         – Greenhouse Gases

NGO         – Non Governmental Organizations

ENGO       – Environmental Non Governmental Organizations

CSS         – Cycling Stream Stimulation

SAGD       – Steam Assisted Gravity Drainage

GDP         – Gross Domestic Product

WTI         – West Texas Intermediate

CCS         – Carbon Capturing Storage

OSLI        – Oil Sand Leadership Initiative

CEO         – Chief Executive Officer

BATEA     – Best Available Technology Economically Achievable

AFE         – Authorization for Expenditure

# *Contents*

## 1. Theme and background

In Alberta, Canada, there are large reservoirs of oil sand and massive boreal forests covering more than 140 000 square kilometers, where 4.802 square kilometers of this are minable[1], as illustrated in figure one below. Today, 530 square kilometers of this minable area are under development.
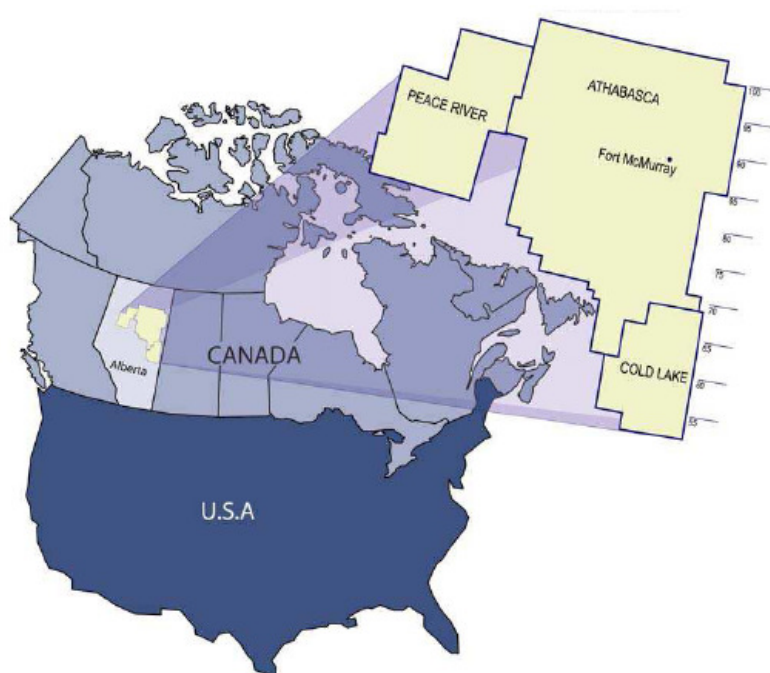


**Figure 1 Oil sands area in Alberta[2]**

The first production of oil sands was in 1967 by Suncor Energy, where mining technology was used to extract bitumen. Back in those days, this was the only technology the industry had to produce oil sand. Today there is high activity in the oil sand area, where new technology, such as in-situ has been implemented. In-situ means that the extraction happens underground where the bitumen is actually situated. Many companies have established business within this industry in Alberta, which is the world's second largest oil reserve after Saudi Arabia[3]. Oil is still a

---

[1] CAPP, *Land use in Canada's oil sands,* September 2009, paper nr. 2009-0023, page 1-2
[2] Canadian Energy Research Institute (CERI) report: *Economic Impacts of the Petroleum Industry in Canada*, July 2009, page 48
[3] Government of Alberta: http://www.energy.alberta.ca/OilSands/791.asp (01.04.2010)

dominating energy resource in the world, and the oil sands in Alberta hold a lot of value, where 179 billion barrels of oil are hidden in the "golden sand"[4].

Because of the environmental concerns around the extraction of the oil sands, this industry has received a lot of criticism from the public. Thus, the views vary about this development, where the government seems to be positive for a future industry. This can be illustrated by the government of Alberta's web pages where you will find a positive approach towards the oil sand industry. According to the president of the Treasury Board, Lloyd Snelgrove, the oil sand industry will balance the future energy development with respect for the environment and it will outline how Alberta will foster a high quality of life for the families living there, while developing the economy[5]. Further, searching the popular press and the internet, one can find strong organizations, such as Greenpeace, having statements saying "*the tar sands are a climate crime*"[6]. The environmental footprints that this industry discharges are often the reason why the public or *people* react negative to this industry.

There are environmental footprints regarding emissions to air and water reservoir, and there is huge intervention in the landscape, where it can be discussed that this land area actually gets damaged. Manmade tailing ponds which contain toxic water from this industry are seen as a huge threat to the animal life in the areas where they are situated. In 2008, there was an incident where 1600 birds landed in one of Syncrude's tailing ponds "Aurora", and died because of the condition in the water sited there[7]. Further, The Edmonton journal states in an article that birds have landed on this tailing pond and died because of the toxic water for the past 20 years[8]. These manmade tailing ponds are not to be reclaimed, because the technology is not there per today's date. Accidents like these are very visible for people, where the media such as CBC, The Edmonton journal and CTV often cover these stories. This contributes to a negative picture of this industry and the social license to operate gets weakened. The industry faces a lot of

---

[4] Das, S (2009) *Green Oil.* Canadian Cataloguing in Publication Data, Canada  p. 32
[5] Responsible Actions: A plan for Alberta 's Oil Sands February (2009) Page 2
[6] http://www.greenpeace.org/international/news/activists-stop-climate-crime-tar-sands (24.01.2010)
[7] http://www.cbc.ca/money/story/2010/04/23/alberta-tailings-ponds-oilsands-fort-hills-syncrude-calgary.html (23.04.2010)
[8] http://www.edmontonjournal.com/business/Tailings+pond+breaks+federal+officer/2663851/story.html (23.04.2010)

challenges towards a better future and how to develop this golden mine in a more sustainable way.

With discussions as those addressed above, the general public might get an impression that this is a very damaging business and one might wonder why the government allows this to continue. It is not only the stories about bird death that challenges the industry's social license to operate; the emission of GHG (Green House Gases) that this industry counts for is also something enlightened in the media. Headlines in CBC news, such as "*Oilsands jeopardize Canada's reputation: Prentice*", tell stories where the federal Environment Minister Jim Prentice talks about how the environmental footprint from this industry has become an international issue, and are about to give Canada as a country a bad reputation[9]. Media in Norway also covers stories about the oil sand industry, where newspapers such as "Dagens Næringsliv" has enlightened this by telling stories where they claim that the Norwegian oil business now have a problem after Statoil chose to enter this industry. It is also stated in this news paper that "*oil sand is a true mess – both for the environment and the politics*[10]".
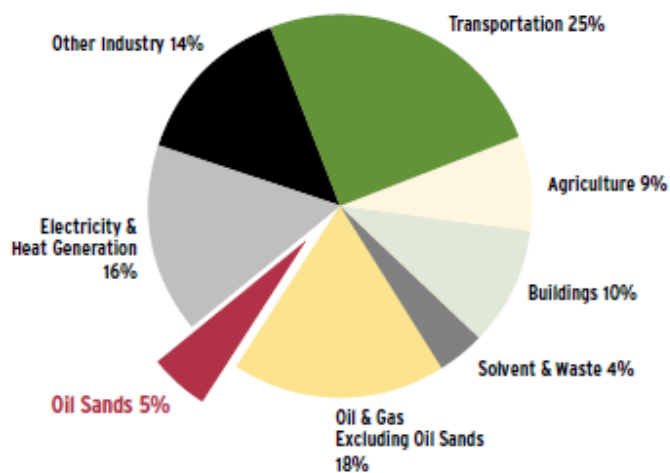


**Figure 2 Canada's GHG Emissions by Sector[11]**

The media seldom say anything about how much GHG emission the industry actually counts for. This means that people hearing stories like these have to look deeper into the case if they want to

[9] http://www.cbc.ca/canada/calgary/story/2010/02/01/oilsands-prentice-copenhagen.html (23.04.2010)

[10] http://www.dn.no/forsiden/kommentarer/article1670449.ece (23.04.2010)

[11] CAPP, Canadian Association of Petroleum Producers, *Environmental Challenges and Progress in Canada's Oil Sand,* April 2008, page 4

capture the whole picture. Many will not do this, and instead they "just know that this industry pollutes a lot". Figure two illustrates how the GHG emissions are divided by different industry sectors in Canada, where one can see that the oil sand industry counts for five percent of the GHG emissions in the country.

I have now given a short introduction of my theme in this study. This brief description of the oil sand industry gives me questions, and will lead me into the next chapter of problem discussion where I will discuss things enlightened above. At the end of this chapter this will lead me to a problem statement, and the core question of my research.

## 1.1. Problem discussion

As mentioned, there has been a lot of criticism towards the oil sand industry, where NGO's such as Greenpeace claim that this is a very environmental damaging industry. Still, with the fossil fuels as the dominating energy resource, it is easy to argue that *we need it*. The oil sands in Canada can therefore be seen as an important source of this scarce resource to the worlds energy supply.

Figure two, presented at the end of the introduction illustrates the GHG emission by sector in Canada, where the model tells us that the oil sand industry is not the worst when it comes to GHG emissions. When that is said, it does not mean that this industry does not count for emissions. This leads me to the basic questions of what are the real environmental implications of this industry. Are these issues real or are they formed by public perception? Oil can never be a "green resource" (because it is a non-renewable resource, and it releases GHG while producing and using it), but with more advanced technology and innovation within the field it can become *greener*. The environmental problem today is enlightened and companies within this business as well as the government of Alberta are developing better technologies due to environmental concerns, cost efficiency and the process itself. Still this business is receiving hard criticism.

Something that is not discussed in the public is that the major environmental footprint is derived from burning oil. Between 80 and 90 percent of the emission of one barrel of oil occurs when the oil is actually used[12]. This means that there are 10 – 20 percent left of environmental footprints to

---

[12] Das, S (2009) *Green Oil.* Canadian Cataloguing in Publication Data, Canada  P 51

discuss, and should the oil business be closed down because of this? The oil sand industry has existed for a long time, and there are today programs for developing better technologies. So one argument in favor of oil sand extraction is to ask – is it not desirable that the industry continues to develop new and better technology and thus increasing the competence in this area, in order to secure a better future? The Canadians have long experience within the oil sand industry and the environmental impacts have already been reduced during the past 30 years[13]. As long as there is demand, there will be supply and if Canada would not support any of this supply it would come from other countries. Canada is as mentioned one of US largest supplier of oil and gas. Without this oil from Canada, the U.S. would need to import oil from other countries, which would mean longer distance of transportation of this resource.

There are several questions that comes to mind in this discussion. There are several problems related to the development of the oil sands:

- Green house gases
- Water usage
- Wildlife
- Native population
- Reclamation of land
- Production costs
- Public opinion and social pressure

Furthermore, there are several challenges for businesses due to these problem areas, and I am wondering what has been done in relation to this. Are the companies willing to use resources (financial and human) to make this industry better? What are they doing today? Oil Sand Leadership Initiative (OSLI) is a group developed by five companies within the oil sand industry. These companies are Nexen, Total, Suncor, ConocoPhillips and Statoil. The goal for this group is to develop a better oil sand industry through collaboration to reduce environmental impacts. OSLI's vision is *"Achieving World Class environmental, social and economic*

---

[13] Petroleum Communication Foundation, (October 2001) *Canada's Crude Oil Resources – Crude Oil in our Daily Lives.*

*performance in developing this World Scale Oil Sands resource"[14].* OSLI is a rather new organization; they have worked together for two years and there is almost no information about this group out there. I got to hear about this group through Steven Moran, one of the professors at the University of Alberta.

I found this initiative very interesting in my study, because of OSLI's aims and what they set out to accomplish. From their vision described above, this is something that could help me answer the main questions in my thesis. This leads me further into questions of *how do they do it*, and my problem statement will emerge at this point.

## *1.2. Problem statement*

Due to the problem discussion described above, my problem statement is as followed:

*"How does the OSLI consortium act in the oil sand industry to accommodate environmental standards and concerns?"*

I have focused on three questions when seeking answers to my problem statement in an analytical sense. These will help me when conducting interviews and further structure my study. My guiding research questions are as follows:

1) *How to find the right players?*
2) *How are the priorities established within OSLI?*
3) *How does OSLI cope with challenges and opportunities?*

The oil sand industry in Canada involves many companies and people, both shareholders and stakeholders. In the process of refining my research question, I found OSLI as a new and interesting group which I wanted to look deeper into. The purpose for my study is to better understand how the consortium OSLI works, and what pro's and con's of this collaboration are experienced by the individual members, related to the issues I am trying to solve together. I want to address the technological innovation, environmental pressures/demands and the collaboration itself. What are the companies actually doing today within the oil sand industry?

---

[14] OSLI, *Oil Sands Leadership Initiative – Driving Improvement in Sustainability Performance,* slide 1

To answer my research questions, I will conduct interviews with the companies involved with OSLI. Further, I will look at relevant literature in the area, in order to get a good background and the necessary knowledge for further research.

Greenpeace and other NGO's claim that oil sands are a very environmental damaging industry. My research can contribute to map the oil sand industry and enlighten actions companies have done regarding these aspects. This study can contribute to strengthen or weaken the sustainability within the oil sand industry. Further, the industry can get an overview of what is done, what needs more focus in the future and what benefits there are from collaboration.

## 2. Description of the oil sand industry

This chapter will describe the basis of my thesis. I will give an overview of this industry and address some of the issues and challenges that this industry experiences. An overview of the oil sand industry in Alberta will provide background knowledge and understanding in order to better identify with the context addressed in my thesis. This chapter will first describe what the oil sands are and how to extract this oil. I will further look at the economic aspect this industry brings to Canada and the province of Alberta, and address the royalty system. This industry involves several groups of people, corporations and the government, which means that there are many stakeholders. To give the reader an overview and range of the stakeholders, there will be a chapter where these are disclosed. Since the oil sands face a lot of criticism and challenges due to environmental issues, I will address some aspects upon water management, emission to air and carbon management. Last in this chapter I will shortly describe the consortium of Oil Sand Leadership Initiative (OSLI). This belongs to the core of my thesis, and it is therefore important to give the reader an insight early on in my thesis, where I describe who they are and what they do.

### 2.1. Oil sand – Bitumen

Through millions of years tiny plants and animals, mainly algae, settled on the bottom of ancient seas[15]. This has been buried beneath surface and laid under pressure and during a long time this

---

[15] Petroleum Communication Foundation, (October 2001) *Canada's Crude Oil Resources – Crude Oil in our Daily Lives*, page 8

mass of organic material has been converted into heavy oil. This means that the oil sands are a naturally occurring mixture of thick heavy oil, water and sand. The heavy oil, also called unconventional oil, is classified as bitumen. This is today the oil sand that human being extract for fossil fuels.

Crude oil is often found in another location than where it takes form because of its ability to migrate through rocks up to the surface. The oil is also found in reservoirs underground with a layer of natural gas above and salt water below. The sand surrounded with a layer of water and a film of bitumen makes a very viscous mass. To produce oil out of this mass, the sand and oil have to be separated, where 80 to 85 percent is sand, and 1 to 18 percent is crude bitumen. At room temperature this mass of bitumen will act as cold molasses[16], which means that it will not float but be in an almost solid state under natural conditions. To separate the oil from the sand it is used hot water which also will make the bitumen's viscosity lighter and possible to transport through pipes. This is an expensive and comprehensive process compared to other conventional oil (lighter oil, such as off shore). In Alberta an estimated amount of 1.7 to 2.5 trillion barrels of oil can be produced from the oil sand[17].
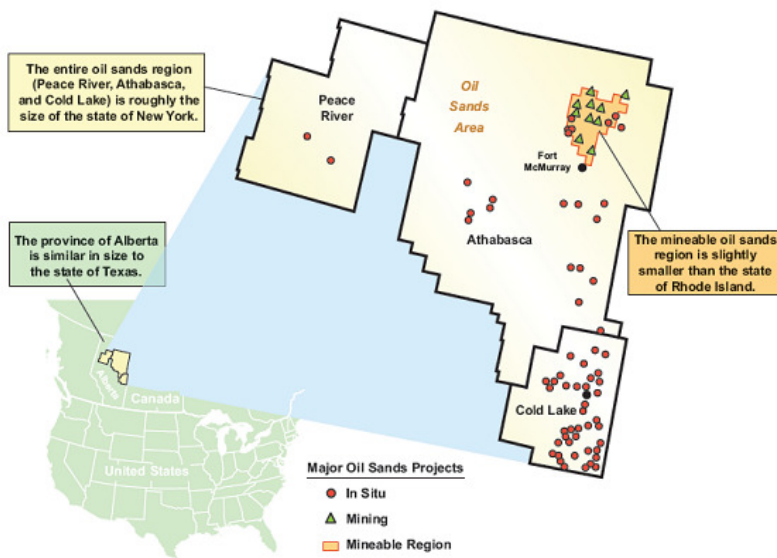


**Figure 3 Location of Canadian Oil Sands Resources[18]**

---

[16] http://www.energy.gov.ab.ca/OilSands/793.asp (19.01.2010)

[17] http://www.oilsandsdiscovery.com/oil_sands_story/resource.html (19.01.2010)

[18] CERA, *Growth in the Canadian Oil Sands; Finding the New Balance,* 2009, page 1-9

There are two ways of extracting bitumen from the oil sands; surface mining or in-situ, which I will elucidate further. The map above illustrates where the mining and in-situ are located, and from figure three one can see that in-situ is the major technology for extracting bitumen.

### 2.1.1. Mining

Extraction of the oil sands through mining technology means that the sand is dug up from the ground for further processing. The oil is mixed within the sand and there are many steps before sand and oil are separated. After large machines (shovels) have taken the sand out of its place it has to be transported on large trucks to a plant where it can be processed. The sand is further transported into a machine which crushes the sand into small pieces. Next step in the processing plant is to mix the sand with hot water to split the oil from the sand. Without the water the sand and the oil will be forever bound together. A lot of water is consumed in this process, but a large amount of the water is recyclable. To make one single barrel of oil 2 to 4.5 barrels of water are required. This means that the whole life cycle of one barrel of oil is going through a long process, where there are many factors involved.

### 2.1.2. In Situ

Means "in place" and we can say *in place* production. The majority, 80 percent[19], of the oil sands deposits is situated deep under the surface and makes it impossible to extract through surface mining. In-situ is used to recover the bitumen from its place underground[20]. Pipelines are used, which go down into the ground through wells where the oil sand is situated. Through these drilled holes, steam is injected into the deposits to heat the oil sand and lower the viscosity of the bitumen. There are two different methods that are most common in Alberta. These are CSS (Cycling Stream Stimulation) and SAGD method (Steam Assisted Gravity Drainage). In the CSS method there are vertical wells in which steam is pumped down to heat the bitumen to lower the viscosity. There will be a mass with sand, water and bitumen which are brought to the surface for further process. In the SAGD method there are two horizontal wells, one above the other. Through the top well steam is injected below the surface, which heats the bitumen and lowers its

---

[19]CERA, *Growth in the Canadian Oil Sands; Finding the New Balance,* 2009, page 1-8

[20] Das, S (2009) *Green Oil.* Canadian Cataloguing in Publication Data, Canada  p 35

viscosity. This enables the bitumen to be brought to the surface leaving the sand behind[21], as illustrated in figure four below.
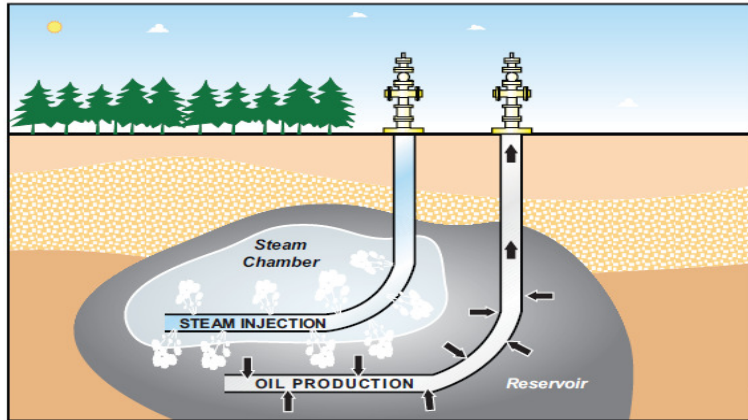


**Figure 4 Steam-assisted Gravity Drainage (SAGD)[22]**

Technology has improved since the time when Suncor's first production took place in 1969. Still there is an aim to develop this industry even further, and find more environmentally friendly processes due to this. It is a rather expensive method of extracting oil compared to other conventional oil, but it still gives revenue to Canada. This means that it is an important resource for development for the *good quality of life* for the society, which I will address further in the next chapter.

## 2.2. Economy

Oil sand is an important resource for Canada and value creation in the country. Canada is the United States' largest supplier of oil, where the U.S. uses 25 percent of the world's oil supply. Canada accounts for 18 percent of this[23]. In 2008, Canada exported in total 4.2 million barrels of oil and gas per day[24]. The upstream oil and gas activities will give Canada an increase in the gross domestic product (GDP) by 3. 5 million Canadian dollars[25]. Further, this industry gives income to the province where the development takes place in form of royalties. Royalties are a

---

[21] http://www.mining-technology.com/projects/athabascasands/ (19.01.2010)

[22] CERA, *Growth in the Canadian Oil Sands; Finding the New Balance,* 2009, page 1-11

[23] Nikiforuk, A (2008) *Tar Sands, Dirty Oil and the Future of a Continent.* Greystone Books: Vancouver  p 30

[24] CBSR (Canadian Business for Social Responsibility) *Stakeholder Relations in the Oil Sands,* May 2009

[25] Canadian Energy Research Institute (CERI) report: *Economic Impacts of the Petroleum Industry in Canada*, July 2009, page 6.

price the producer of oil has to pay the government for the right to develop this resource. The government of Alberta states that royalties are an important part of their province's revenue stream and helps funding important programs like health, education and infrastructure[26]. In a timeframe of 25 years Canadian Energy Research Institute (CERI) has estimated that these royalties of oil sands can give Alberta an income of 184,616 million Canadian dollars[27].

As the production of the unconventional oil sand is more expensive than production of other conventional oil, the table below shows an outline of the costs in the different extraction technologies:

| Cost to Produce One Barrel of Oil By Process | |
| --- | --- |
| SAGD | C$37.10/barrel |
| CSS | C$41.94/barrel |
| Mining | C$62.71/barrel |
| Upgrading | C$38.75/barrel SCO |
| Integrated (Mining and Upgrading) | C$98.16/barrel SCO |

**Table 1 Cost to Produce One Barrel of Oil by Process[28]**

The high costs can make it hard for producers to find motivation for joining this industry, especially regarding the royalties they have to pay. It is therefore important that Alberta has an effective system that encourages producers to develop this resource and at the same time provides for some return on value to the province. In 2009 the royalty system of Alberta was restructured, and today the royalties are determined on sliding scale based on West Texas Intermediate (WTI) prices[29]. When this price is below $55 Canadian dollars, the royalty payment rate is 1 percent for the operators that have not yet recovered their capital cost and 25 percent for operators that have recovered their capital costs. From $ 55 Canadian dollar to $120 Canadian

---

[26] Government of Alberta: *Energy Economics, Understanding Royalties,* September 2009,
http://www.energy.gov.ab.ca/Org/pdfs/Energy_Economic.pdf
[27] Canadian Energy Research Institute (CERI) report: *Economic Impacts of the Petroleum Industry in Canada*, July 2009, page 57.
[28] Government of Alberta, Energy; http://www.energy.alberta.ca/OilSands/791.asp (29.03.2010)
[29] CERA, *Growth in the Canadian Oil Sands; Finding the New Balance,* 2009, Chapter 2, page 6

dollar this rate ranges from 1 to 9 percent or 25 to 40 percent[30]. This change in the royalty system is to assure the province of Alberta some value-added due to the oil sand development.

The oil sand industry provides for employment in Canada. Today there are 112 000 people working in this industry and this rate is expected to grow in the future where in a 25 year perspective it is estimated that there will be 500 000 jobs[31]. Employment that the oil sand industry provides for will impact both local community and outside the province. When the oil sand industry expands, there will be a need for additional workers in the area. This business will also create employment outside Alberta, where there will be an increase in need for goods, materials and services regarding this industry. Royalties and taxes from the oil sand business will give Canada revenue which will play a role in supporting the health care, roads, education and the national infrastructure. The good quality of life will be supported by these royalties for the Canadian citizens in a long time perspective.

The oil sand activity also impacts the local economy, directly and indirectly. Due to the oil sand industry the local community will experience an increase in the economic activity. It is not solely great for the local community. The workers get good salaries, but what is happening in Alberta is that the general price level has increased outstandingly, as well as the real estate prices. This has contributed to a housing problem; there are not enough houses to all the employees. This has driven the prices to a high level and workers, or other people, who want to live in these areas, have to pay up if they want a roof over their head. This means that the oil sand business in Alberta indirectly affects the local economy. There is suddenly a higher demand, and prices are following this. People outside the oil business and still live in this area will also be affected by this.

There are many stakeholders in the oil sand industry. These groups of stakeholders often have views on the development in the oil sands. If the companies neglect their stakeholders, they can face difficulties. This is because stakeholders can have strong judgments, and if they feel neglected, they might cause trouble to the companies, like protesting or in worst case stop

---

[30] Government of Alberta: *Energy Economics, Understanding Royalties,* September 2009, Page 17. http://www.energy.gov.ab.ca/Org/pdfs/Energy_Economic.pdf

[31] CAPP, *Oil sands: an important asset generating benefits across Canada,* September 2009, paper nr. 2009-0030, page 1

projects. Someone owns the land after all where the plants are facilitated. Due to this, the companies would most likely behave in the best interest for people living there. The importance of stakeholders leads me to my next chapter.

## 2.3. Stakeholders in the oil sand industry

The stakeholders can be anyone; people from the local community living right by the oil sand facility or people elsewhere in the world. People from Norway or Australia can be concerned about the emissions to air that this industry accounts for. The stakeholders are likely to have different concerns or motives. People living far away might be more concerned about the GHG emissions to air, which can have an effect on the global warming, and less concerned about issues towards water. The local population might be less concerned about the GHG emissions to air, and more concerned about the issues towards water management. One can also see the wildlife as stakeholders, but they cannot talk for themselves or address what is in their interest. People in general have an interest to protect the wildlife and nature, but there are also organizations that speak the word for the animals.

The government of Alberta talks a lot about the stakeholders in their *Responsible Actions*, which is a future plan for Alberta's oil sands. They address that they will encourage cooperation, participation and partnership with the key stakeholders[32]. Industry and government are stakeholders that are easy to map. But when "other stakeholders" are mentioned, it might be hard to know who these other stakeholders are, because the report does not elaborate on who they are. A report from CBSR (Canadian Business for Social Responsibility) addresses that the First Nations and Métis Nation communities are fundamental stakeholders and it is important that they have a place at the tale so their voice can be heard[33].

### 2.3.1. Groups within the oil sand industry

The oil sand industry in Canada is one of the highest regulated industries in the country and despite this, it is a growing industry. There are many different groups and organisations within the oil sand industry that work for better technology and innovation. There are challenges regarding how to develop this industry environmentally competitive; not only economical

---

[32] Government of Alberta, *A Plan for Alberta's Oil Sands,* February 2009, page 9
[33] CBSR (Canadian Business for Social Responsibility) *Stakeholder Relations in the Oil Sands,* May 2009

competitive. To give an overview of how many different organisations and working groups there are, here below I will list different groups that exist today. Most of these groups are non-profit organisations that work with research and development in the oil sand industry and several of them are also large organisations having many different shareholders.

**Associations:**

For the companies in the oil sand industry it is often about obtaining or increasing the social license to operate. They are concerned about the public perception, and many companies involve themselves in different organizations to work for a better future for the oil sand industry. Development in the oil sand are core to this challenge; social license.

- CAPP (Canadian Association of Petroleum Producers)
- IOSA (In-situ Oil Sand Alliance)
- OSDG (The Oil Sands Developers Group)
- CONRAD (Canadian Oil sands Network for Research and Development)
- OSTRF (Oil Sands Tailing Research Facility)
- ACR (Alberta Chamber of Resources)
- The Canadian Energy Advantage – Technology in the Canadian Oil & Gas Industry
- COAA (Construction Owners Association of Alberta)
- CHOA (Canadian Heavy Oil Association)
- OSSA (Oil Sands Safety Association)
- PSAC (Petroleum Services Association of Canada)
- UDI (Urban Development Institute -Wood Buffalo)
- CERI (Canadian Energy Research Institute)
- Centre For Energy
- CIM (the Canadian Institute of Mining, Metallurgy and Petroleum)
- ALSA (Alberta Land Surveyors' Association)
- CADE (Canadian Association of Drilling Engineers)
- CBSR (Canadian Business for Social Responsibility)

**Government:**

The governmental stakeholders can help to mitigate some of the negative aspects of the oil sand industry. They are often working by means of the regulatory regime which is critical in this industry. The government is split into different areas, as addressed below:

- ERCB (Energy Resources Conservation Board)
- Government of Alberta – Energy
- Government of Alberta – Environment
- Government of Alberta – Oil Sands Portal
- Government of Alberta – Oil Sands Sustainable Development Secretariat
- Government of Alberta – Sustainable Resource Development
- Government of Canada – Environment Canada
- Government of Canada – National Energy Board
- Government of Canada – Natural Resources Canada

**Multi-stakeholder Groups:**

Environmental Non-Profit Organizations (ENGO's) elaborate their concerns towards the development of the oil sand industry, and can keep the industry and companies at "their toes". This means that companies cannot just ignore or neglect the aspect that these ENGO's address, because what they say reach out to the public. Even if these things are true or not, it gives the public a picture of how the oil sand industry operates. If the industry wants to maintain their social license to operate, they have to take these issues into consideration in their development.

- CEMA (Cumulative Environmental Management Association)
- RAMP (Regional Aquatics Monitoring Program)
- WBEA (Wood Buffalo Environmental Association)
- BLC (The Boreal Leadership Council)
- WWF-Canada (World Wildlife Fund Canada)
- Greenpeace

It is often the stakeholders who address environmental issues. As addressed above, these might be the governmental and multi-stakeholder groups, where the associations work towards answering these environmental issues. To give the reader a picture over the extent of these environmental concerns, I will in the next chapter elaborate some of the environmental aspects within the oil sand industry.

## *2.4. Environmental concerns*

The two main environmental concerns due to the oil sand industry are water and air. The production uses a lot of water, which will be contaminated after it has gone through this process. Oil sand extraction also releases emission to air, and some claim that this is one of the main reasons why Canada will not meet the goals of the Kyoto protocol. These are topics highly discussed in the media, and it is an issue that the industry and government are working on. Therefore, I will further enlighten some aspects around the environmental concerns in the oil sand industry.

### 2.4.1. Environmental development of the oil sands

A report from the government of Alberta; *Responsible Actions; A Plan for Alberta's Oil Sands* address different goals for the oil sands future. Strategy one is about the environmental concerns, where the government of Alberta addresses how they want the oil sands to be developed in an environmental responsible way[34]. The aim is to make the business achieve ecological sustainability in this industry, which reflects on protection of human beings, eco-system and the environmental stewardship. The strategy one is listed in the table below.

| 1.1 |
| --- |
| Through implementation of the Land-use Framework, effectively manage the cumulative effects of oil sands development on the environment to protect air, land, water, biodiversity and human health |

---

[34] Government of Alberta, *A Plan for Alberta's Oil Sands,* February 2009, page 17

| **1.2** |
| --- |
| Enhance reclamation and increase enforcement to minimize Crown liability and protect environmental health |
| **1.3** |
| Increase conservation and protect areas to maintain biodiversity in the oil sands regions |
| **1.4** |
| Meet or exceed Alberta's GHG reduction objectives |
| **1.5** |
| Strengthen organizations to collaboratively manage and monitor environmental performance |

**Table 2 Strategy one; develop Alberta's oil sand in an environmental way[35]**

By these points (1.1 to 1.5) the government of Alberta means to guide the industry to develop the oil sands in a more sustainable way. The industry should focus upon environment, social and economic implications when developing processes in the oil sands, such as use less energy and water.

## 2.4.2. Water management

The Athabasca River flows through Alberta, and is the province's longest river. It flows from the Rocky Mountains to the Peace-Athabasca Delta and Lake Athabasca. This river provides for water resources to citizens and the oil industry in the province. Headwaters of this river arise from the Athabasca glacier, by melting water from ice and snow[36]. Rivers acts in relation to the four seasons, which means that during the winter time there is low flow (because of the low temperature) and during spring there is a high flow (because of all the melting ice and snow). This means that the water resources are low in wintertime and higher at summertime.

---

[35] Government of Alberta, *A Plan for Alberta's Oil Sands,* February 2009, page 18 - 19
[36] http://www.ramp-alberta.org/river/geography/basin+landscape.aspx (27.01.2010)

**Figure 5 Alberta Water Allocations, 2007[37]**

The oil sand industry needs a high volume of water in the process of separating oil and sand and accounts for five percent of Alberta's water usage[38] as shown in figure five. Water usage differs in relation to technology used, but there is approximately a need from one to five barrels of fresh water to produce one single barrel of oil[39]. In 2007 the oil sand industry used one percent of the average river flows in the Athabasca River[40]. This industry is expecting growth in the future, which means that the need for water also will increase. According to the 2007 numbers, it can give the impression of low water withdraw from the river, but the seasonality in the river flows vary, which means that during winter time and low flows there is a water usage of about five percent of the volume in the river. This number is higher than what the Water Management Framework for the Lower Athabasca River has set due to water usage. To protect the river, the Water Management Framework for the Lower Athabasca River sets a world standard by placing a high degree of protection on a waterway to avoid future environmental impacts[41]. From the flows of the river, this framework calculates the volume of water every week which the companies can use. The volume varies between the seasons. When the flows are low, companies

---

[37] http://www.capp.ca/getdoc.aspx?DocId=159084&DT=NTV (28.03.2010)

[38] CAPP; *Water use in Canada's oil sands,* September 2009, paper nr. 2009-0022, page 1

[39] Das, S (2009) *Green Oil.* Canadian Cataloguing in Publication Data, Canada p 35

[40] CAPP, *Water use in Canada's oil sands,* September 2009, paper nr. 2009-0022, page 1

[41] Government of Alberta, Enviornmental Management of Alberta's Oil Sand, page 17

are limited to the equivalent of 1.3 percent of annual flow[42]. When it is high flow, companies may have an opportunity to use more water than actually needed. This means that it would be profitable for companies to storage water in high water flows – to use when the river has low water flows.

Water recycling is an important process in the oil sand industry, which contributes to less water usage. 80 – 95 percent of all the water resources within oil sand projects are recycled. The bi-product of oil sands refer to as tailings, which are water, sand, clay and oil. This is all sent to manmade tailing ponds, which contain water used in the process of extracting oil. Some of the water mixed with clay and sand will be recycled in these tailing ponds, where clean water will float up to the top and the sand and clay will sink to the bottom. This mixture of mass at the bottom of the tailing ponds is also called fine tailings, and some of the water mixed in these fine tailings is today not recyclable, which means that the water is impossible to reuse. Clean water on the top of the tailing ponds will be sent back to the plant and reused in the process of extracting bitumen.

Tailing ponds are among the biggest issues in the oil sand industry. The industry is not allowed to re-inject water used in the oil sand industry back into the river[43]. Even if this water is cleaned and does not show any trace of health damaging material, people will not have this water back in the nature. Therefore reclaimed water will also be transferred to the tailing ponds. These toxic tailing ponds are located in the nature, with little protection from the animal life out there. Stories of birds having landed on these ponds and drowned because of the oil are not unusual.

Today the tailing ponds cover approximately 130 square kilometers[44]. Industry has yet not found a way to reclaim these tailing ponds and still today there is no tailing pond that has been reclaimed[45]. This gives a picture of the life cycle to these ponds, where CAPP has estimated the life time of tailing ponds of 30 – 40 years.

---

[42] Government of Alberta, *Enviornmental Management of Alberta's Oil Sand,* September 2009, page 17
[43] Government of Alberta, *Enviornmental Management of Alberta's Oil Sand*, September 2009 page 21
[44] CAPP, *Water use in Canada's oil sands,* September 2009, paper nr. 2009-0022, page 3
[45] CAPP, *Water use in Canada's oil sands,* September 2009, paper nr. 2009-0022

### 2.4.3. Emission to air

April 29th, 1998, Canada signed the Kyoto Protocol and thereby said that they would reduce their GHG emissions[46]. This agreement says that Canada is required to reduce the GHG emissions by six percent below the 1990 levels in the period between 2008 and 2012. The Canadian GHG emission has however increased related to the 1990 levels. Canada is now facing a challenge: How to reduce these emissions and at the same time be economically profitable.

These days global warming is a hot topic, and the emissions to air from the oil sand industry can be linked to this feature. Oil sands production releases more GHG, such as carbon dioxide, than conventional oil production[47]. The oil sand industry has received a lot of criticism regarding the emissions they count for. $CO_2$ is formerly released because of anthropogenic emissions. Anthropogenic GHG emission means that these emissions are human made, not occurring naturally. According to Environment Canada, the anthropogenic emissions of $CO_2$ are primarily from fossil-fuel combustion, deforestation and industrial processes, where carbon dioxide is the most critical one[48]. As the production of oil sand increases, the GHG emissions will also increase.

Greenpeace has stated that if the tar sand continues their operations, Canada will not be able to meet their Kyoto Protocol goals[49]. As illustrated in figure one from the introduction, the oil sand is not the worst polluter by sector. Still, they can do better and the industry is working towards a better and more sustainable future with less emission to air. The government of Alberta also has a climate change strategy, where the goal is to reduce the GHG emissions, develop carbon dioxide storage, and transform the way they produce energy towards a more clean production[50].

### 2.4.4. Carbon management

Carbon dioxide Capture Storage (CCS) is a process for reducing GHG emissions into the atmosphere. This is done by capturing and compressing the $CO_2$ emission from an industrial

---

[46]Environment Canada: http://www.ec.gc.ca/pdb/ghg/about/kyoto_e.cfm (02.02.2010)

[47] CAPP: http://www.canadasoilsands.ca/en/issues/greenhouse_gas_emissions.aspx (02.02.2010)

[48] CCSTRM, *Canada's CO2 Capture & Storage Technology Roadmap (www.co2trm.gc.ca) – Clean Energy Technologies (March 2006)*

[49] http://www.greenpeace.org/canada/en/campaigns/tarsands/threats/climatechange (04.02.2010)

[50] Government of Alberta: *Alberta's 2008 Climate change Strategy; Responsibility/Leadership/Action.* http://environment.gov.ab.ca/info/library/7894.pdf (29.03.2010)

process, such as fuel processing, and the $CO_2$ is transported to a storage place – often underground for safe storage in a long time perspective[51]. $CO_2$ storages are ideally located where large amounts of $CO_2$ are produced, such as in the oil sand plants. When the oil reservoirs are depleted, the $CO_2$ can be replaced into the ground for a long-term and cost-effective storage. According to Alberta Energy Research Institute, CCS is the most promising development for the future in relation to lowering the GHG emissions. The primary driver behind CCS is to reduce GHG emissions and by this deal with the issue of climate change. It is stated in a report from Clean Energy Technologies that *"Anthropogenic $CO_2$ emissions have increased atmospheric GHG concentrations by more than 31 % in recent years, from preindustrial levels of 280 parts per million (ppm) to 368 ppm in 1999[52]"*. There are challenges regarding reduction of these emissions while at the same time making it economically profitable. The CCS provides an opportunity to meet these challenges. By mitigating climate change effects, if the technology allows, it can give an economical opportunity in a global perspective. The ones that succeed in this technology will most likely open a large market in the whole world. This means that if Canada becomes the leaders in CCS technology, they will lead the world of low-emissions fossil fuel industries.

Table three illustrates that the province of Alberta counts for 42 percent of the GHG in Canada. Environment Canada states that there are three industrial sectors that account for the highest GHG emission, which are utilities (those generating electricity), manufacturing and oil and gas extraction.

---

[51] CCSTRM, *Canada's CO2 Capture & Storage Technology Roadmap (www.co2trm.gc.ca) – Clean Energy Technologies (March 2006)*

[52] CCSTRM, *Canada's CO2 Capture & Storage Technology Roadmap (www.co2trm.gc.ca) – Clean Energy Technologies (March 2006),* page 22

| Province | Number of Facilities | Total Emissions (kt $CO_2$ eq) | % of Total Emissions |
|---|---|---|---|
| Newfoundland and Labrador | 7 | 5 273 | 2% |
| Prince Edward Island | 1 | 99 | 0% |
| Nova Scotia | 9 | 11 104 | 4% |
| New Brunswick | 12 | 10 284 | 3% |
| Quebec | 46 | 20 002 | 8% |
| Ontario | 87 | 66 911 | 26% |
| Manitoba | 9 | 2 367 | 1% |
| Saskatchewan | 24 | 21 885 | 8% |
| Alberta | 109 | 110 921 | 42% |
| British Columbia | 43 | 13 186 | 5% |
| Northwest Territories | 3 | 534 | 0% |
| **Totals** | **350** | **262 565** | **100%** |

**Table 3 Reported 2008 GHG emissions by province[53]**

The aspects disclosed up until now are all areas that companies have to take into consideration when doing business within the oil sand industry. This will also affect the companies within OSLI, which are the core subject of my thesis. Therefore I will address what this is and who they are in the next chapter.

## 2.5. Oil Sand Leadership Initiative (OSLI)

The oil sands are a large scale industry, and as mentioned before, this is an industry that has a lot of bad reputation. This is something the industry is aware of and there are many different organizations, both governmental and private as addressed in chapter 2.3. Some are already working within research and development due to a better industry in the future, regarding the environment, economy and society.

The Oil Sand Leadership Initiative (OSLI) started out with six companies[54], and today they are five (because of a merger of Suncor and Petro-Canada). The five companies involved today are:

- ConocoPhillips

---

[53] Environment Canada, http://www.ec.gc.ca/pdb/ghg/onlineData/downloadDB_e.cfm#sec2 (10.02.2010)

[54] OSLI, *Oil Sands Leadership Initiative – Driving Improvement in Sustainability Performance*, slide 2, Appendix nr. 2

- Nexen Inc.

- Statoil (Canada)

- Suncor Energy Inc. (and formerly Petro-Canada)

- Total E&P Canada

The consortium of OSLI was established in 2007 and had the first meeting in January of 2008. There is very little information about this group today, and to get information about them, you have to go to the companies involved. Total E&P Canada has an *intro to OSLI* internal report, where they state that the idea of OSLI was to create a significant step-change in the oil sand industry's environmental, social and economic performance[55]. Members of this group were drawn together by a likeminded view of the oil sand industry. According some of the people involved, they see themselves as different as the other groups which already exist. They want to be a smaller organization than the ones that already exist which will contribute to a faster degree of decision making in questions towards implementation of different aspects.

The vision of OSLI is *"Achieving World Class environmental, social and economic performance in developing this World Scale Oil Sands resource"*[56]. OSLI members want to improve the reputation of the whole oil sands industry. Credibility is an issue that cannot be neglected, without credibility it will be hard to gain a better reputation of this industry. OSLI want to strengthen their credibility by not disclose any information about what they are doing until they actually have done it. This means that instead of making a lot of promises of what will be done in the future due to development in the oil sand industry, such as technology innovation, OSLI wants to have results to refer back to.

The main goal of OSLI is to improve the social and technological performance in the oil sand industry. OSLI had six working groups when they started, but today there are five, which are Land Stewardship, Water Management, Sustainable Communities, Carbon Management/Energy Efficiency and Technological Breakthrough[57]. In figure six, the structure of OSLI is illustrated and who controls each of the working groups.

---

[55] Total E&P Canada *OurTrek*, winter 2010, Issue N13
[56] OSLI, *Oil Sands Leadership Initiative – Driving Improvement in Sustainability Performance,* slide 1, Appendix nr. 2
[57] Total E&P Canada *OurTrek*, winter 2010, Issue N13, page 5
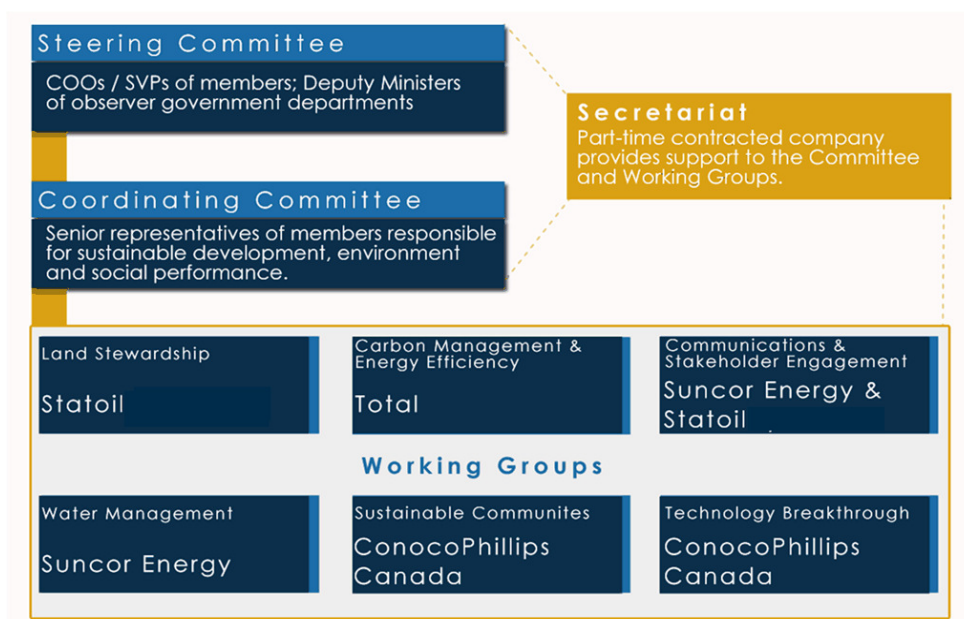
**Figure 6 Structure of OSLI[58]**

Through these working groups they are reaching out for new thinking and innovation. New solutions or new technology developed in these groups will be shared with all the participating companies. To collaborate in this industry gives the companies more resources, both financially and people resources to reach out for better solutions. This means that sharing of knowledge can give the companies value added to all the participants. In a presentation from OSLI they state that: *"working together is the best way to achieve the step-change in performance our stakeholders are expecting and deserve"*[59]. Further, they hope this success will be developed through the working groups addressed above, and that this can contribute to a step-change in the industry. If they manage this, they further hope that people will notice what they have done and by that revolve the public perception of the industry.

---

[58] OSLI, *Oil Sands Leadership Initiative – Driving Improvement in Sustainability Performance,* slide 8, Appendix nr. 2

[59] OSLI, *Oil Sands Leadership Initiative – Driving Improvement in Sustainability Performance,* slide 6, Appendix nr. 2

## 2.6. Chapter summary

In chapter two I have addressed some of the core aspects in my study. The oil sands are a complex industry with many considerations and concerns. Bitumen is heavy oil that makes a very viscous mass where large volume of water is used in the process of separating the sand and oil. This means that it is a more comprehensive production than other conventional oil, and also more expensive. Canada receives value added through royalties from this industry, which will be a part of increase the *good quality of life* for the Canadian citizens. Since the oil sands are highly discussed in the media and among *people*, it means that there are many people interested in this industry, and there are therefore many stakeholders which may want to address their view when developing this industry further. This can be due to the environmental concerns, because of the emissions released when producing oil sand, which can be both regarding the water and air. The Oil Sand Leadership Initiative (OSLI) is an alliance of five large companies working collaboratively towards a better future within the oil sand industry, and takes many of these issues from the stakeholders into consideration when developing new or better technology.

This chapter will function as secondary information (data) for my analysis, because it provides information that I might not receive from my primary sources. Concepts elaborated here gives the reader a basic understanding of what goes on in the oil sand industry in Alberta, and the necessary background and motivation for my study.

## 3. Theory

In this chapter I will present the core theoretical approach to my study. The main focus is on the collaboration of five companies within the oil sand industry, which have an interest in environmental performance. Therefore, the theoretical approach will mainly focus on cooperation. I will at the end of the chapter address some aspects of how to achieve a long term business success, which incorporate sustainability. The theory will in chapter six be utilized as a foundation for my empirical findings in this study.

## *3.1. Collaboration*

There can be many levels of cooperation and partnerships. They are to be found everywhere, and one core example can be a marriage. Two people agree that they will *live together in good and bad days until death do them apart*. To make this happen, there is a need for trust in the relationship, which is a fundamental component of human relationships throughout the world[60]. Though, it is not always like this, divorces is a fact and happens in many cases. Several things can contribute to this discontinuance, where the feelings are not there anymore and so on. But often there has been an issue of trust, where one of the two has done something to tear down the commitment between the two, such as cheating. This chapter is not about to elaborate relationships between husband and wife, but since companies are operated by human beings, who work in- and create them, it results that firms are social communities[61] and social relations matter also in these partnerships.

This chapter will address different aspects within cooperation, which the figure below illustrates. I will start out with the question about why companies should create alliances.
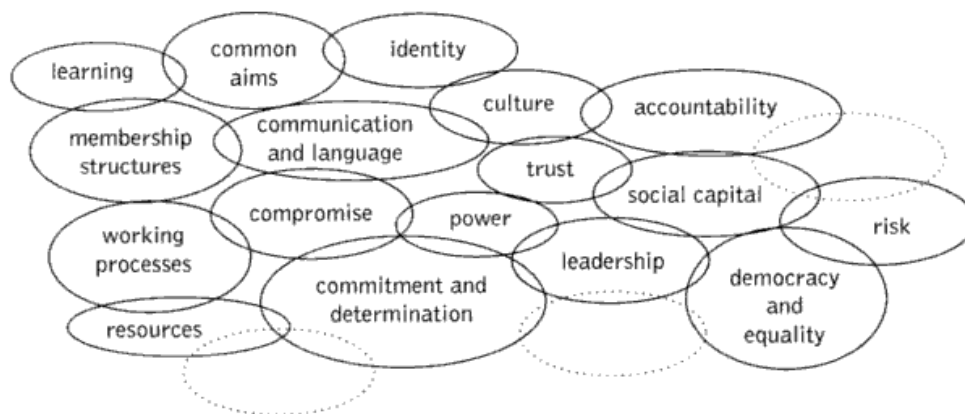


**Figure 7 Themes in collaboration practice[62]**

---

[60] Child, J. (2001) *Trust – The Fundamental Bond in Global Collaboration,* Organizational Dynamics, Vol. 29, No. 4, pp. 274-288

[61] Kogut, B. and Zander, U. (1992) *Knowledge of the firm, Combinative Capabilities, and the Replication of Technology*, Organization Science, vol. 3 No. 3, pp. 383-397

[62] Huxham, C. and Vangen, S. (2005) *Managing to Collaborate; The theory and practice of collaborative advantage*, Routledge, Oxon, page 12

### 3.1.1. Why cooperate

Today there is a pace in the market to go faster, further and better. There is new technology for people purchasing products from the other side of the world, which contributes to a challenge for the global marketplace[63]. This puts a pressure on the industry playing within it. To be a part of this, especially where companies do not have monopoly, there will be an aim to always keep the production costs down to receive revenue from the products sold. An outcome of this has showed that organizations have been driven towards more collaboration and a partnership-driven structure[64]. Hansen (2009) has defined collaboration as *"Cross-unit collaboration takes place when people from different units work together in cross-unit teams on a common task or provide significant help to each other[65]"*. Partnerships concentrate on expanding the size of the pie rather than competing for the biggest piece of the existing pie[66]. They are working for mutual benefits for the participants involved, and want a common good. Through strategic alliances, the development of partnership can enhance effectiveness within the companies involved due to exchanges of mutual resources[67].

Innovation can also help companies be stronger in the market, because of better products. According to Hansen (2009), collaboration can contribute to better innovation in organizations[68]. This is because an alliance will give more resources at the table for development of products. For example more knowledgeable people get together; financial recourses and cutting-edge technology and equipment make innovation more accessible. Innovation will not only be easier to reach, but it will also be less expensive for the companies involved. According to Todeva and

---

[63] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco

[64] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco, page 5

[65] Hansen, M. T. (2009) *Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results*, United States of America page 15

[66] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco, page 21

[67] Todeva, E., and Knoke, D. (2005) *Strategic alliances and models of collaboration*, Management Decision, Vol. 43 Nr. 1, pp. 123-148

[68] Hansen, M. T. (2009) *Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results*, United States of America

Knoke (2005) strategic alliances enable partners to enhance and control their business relationships in various ways through this new business form.

Why companies choose to develop an alliance can be many, and the drivers behind cooperation will be addressed further.

### 3.1.2. Drivers for cooperation

There can be many drivers behind cooperation and it differs in many situations what organizations seek when they decide to be a part of an alliance. According to Huxham and Vangen (2005), some common bases for collaboration are *access to resource, shared risk, efficiency, coordination and seamlessness, learning and the moral imperative – there is no other way*[69]. There is not said that once a company wants to collaborate, it has to fall into one category. Often the collaboration will touch several of the groups, or even all of them.

When joining an alliance there are more people brought together and there will be more brains working together. While connecting more knowledge together, *efficiency* can be fostered[70]. There will be an opportunity to do more with less, which means that one company might not achieve a lot with a certain amount of money and a certain amount of people. They would need to hire more employees to achieve something new. In other words, there might be a lack of resources without allies. With more players on their team they will not need to employ more people to reach out for achievement, which will give companies *access to resource*. Cost comes into play here as well. Development of new technologies can be very costly for one company to achieve. They might never go into this development in the lack of financial recourses. With several funders there will be a higher capacity for these achievements of technology development[71]. This means that there is a *shared risk* between the participating companies involved. Several players can also stimulate *learning*. With participants within the same sector or concerned within a same area, there is a high chance that company A has knowledge that company B does not have and vice versa. This means that they can learn from each other, which

---

[69] Huxham, C. and Vangen, S. (2005) *Managing to Collaborate; The theory and practice of collaborative advantage*, Routledge, Oxon

[70] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco

[71] Luo, Y. (2007) *A Coopetition perspective of global competition,* ScienceDirect

will give both companies benefit. *Coordination and seamlessness* is often seen in service business, where enterprises can offer to collaborate with other companies that provide for a type of product that the costumer need[72]. As an example, this can be a company that provides for full wedding service. They need to cooperate with companies within car rental, flowers, clothes, decoration and such things. All this is needed to one special day, and seamlessness is therefore important; it is no use if the flowers are delivered the day after the wedding. The last bases for collaboration Huxham and Vangen (2005) talk about are *the moral imperative – there is no other way*. Themes that touch upon the society often have a moral aspect to it and it can be too much to handle by one organization alone[73]. This brings collaboration into play, where there are important issues that affect the society; it can be too much to handle for one player alone.

Organizations are often looking for new expertise, new markets or greater efficiency when they are joining an alliance. Collaboration can lead to faster results, because there are several participants working together and sharing knowledge. Company A might have other knowledge and resources than company B, and by synchronizing these two companies they can gain results they would not reach alone. This will function as a resource base for R&D development, e.g. within technology. There are several triggers for collaboration, and if it provides for efficiency, flexibility, resources, markets, a sense of interdependence and personal gratification it makes sense[74].

An alliance is put together by companies that are independent of each other. This can lead to challenges and issues due to management control, who is the *boss*? It is important to look for the differences between the organizations in an alliance, and learn how the allies' culture is. This will be addressed in the next part chapter.

---

[72] Huxham, C. and Vangen, S. (2005) *Managing to Collaborate; The theory and practice of collaborative advantage*, Routledge, Oxon

[73] Huxham, C. and Vangen, S. (2005) *Managing to Collaborate; The theory and practice of collaborative advantage*, Routledge, Oxon

[74] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco, page 49

### 3.1.3. Alliance formation

Companies have in most cases a framework and a set of rules, values and beliefs. Collaboration will in many situations require new structures, new systems, new operations and even new cultures[75]. This means that partners in an alliance can face challenges, because of the need to adapt to new routines and strategic policies[76]. Participants in collaboration have to learn about the operations and culture of their cooperative partners. Within the alliance, participants will work together from different organizations. The culture might vary within these organizations, as well as the values, views and vision. In the development of an alliance the planning, managing and problem-solving will be done in a new culture. Clarification of values, purpose and goals within an alliance is important[77]. This is because the participants involved needs to know how they should act and that they have a common goal. If there were several opinions about what this alliance is all about, it might be hard to reach out for achievements. This means that participants need to "think alike" and know how their partners think. Further, it is important to clarify which managers are in control in this new alliance. According to Todeva and Knoke (2005) an uncertainty about who has the final decision making authority may occur. This is because managers from several companies are delegated to take part in this joint venture and they might believe they have a strong position. This issue can be answered with formal contractual safeguards within the alliance, but it is no guarantee for success due to these uncertainties.

Communication is important in an alliance and can be reached through reflection and dialogue. There will be a need to take several different perspectives into account, and at the same time be clear and critical of own perspectives[78]. Participants within a partnership have to be clear about what their goals and missions are and what they want to achieve from this collaboration.

---

[75] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco, page 38

[76] Todeva, E., and Knoke, D. (2005) *Strategic alliances and models of collaboration*, Management Decision, Vol. 43 Nr. 1, pp. 123-148

[77] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco

[78] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco,

### 3.1.4. Partner selection

According to Bierly and Gallagher (2007) the alliance partner selection is an important step which can be challenging and complex. There will always be a risk of failure within an alliance, and likewise to the partner selection. Partner selection can have different roots, where resources such as technology, capital, capabilities or firm-specific assets and knowledge are common interests that drive partners together. Douma et al. (2000) address that it is crucial to balance the interests and background of the partners involved, so that a win-win situation is created.

Partners from different companies might have dissimilar goals and values, which can lead to conflicts in an alliance. Companies that commit to an alliance are individual and independent from the other allies, and the control is not shared. In other words, within an alliance company A cannot control how company B should act or think. To achieve success within an alliance, there is a need for effective and efficient alignment between the partners involved[79] as illustrated in figure eight. Therefore it is important to address the values and goals within an alliance and secure that the partners are committing for the same reasons[80]. To protect companies from partners' opportunism, the alliance can develop specific governance structure, such as sign contracts[81]. These contracts will describe the formalities around the alliance and will provide guidelines for the partners involved, which can be helpful regarding how to act and decision making.

---

[79] Douma, M., U., Bilderbeek, J., Ildenburg P., J., and Looise J., K. (2000) *Strategic Alliances: Managing the Dynamics of Fit*, Long Range Planning, Vol. 33, Nr. 4, pp. 579-598, page 581

[80] Douma, M., U., Bilderbeek, J., Ildenburg P., J., and Looise J., K. (2000) *Strategic Alliances: Managing the Dynamics of Fit*, Long Range Planning, Vol. 33, Nr. 4, pp. 579-598

[81] Gulati, R., (1995) *Does Familiarity Breed Trust? The Implication of Repeated Ties for Contractual Choice in Alliances*, The Academy of Management Journal, Vol. 38, Nr. 1, pp. 85-112, page 87
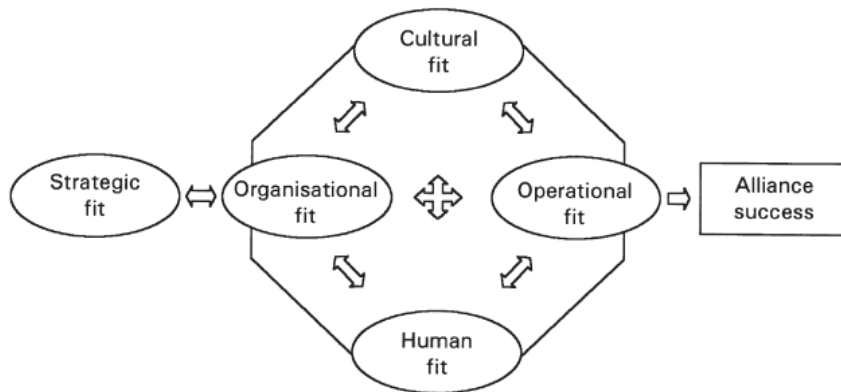
**Figure 8 The generic fit framework[82]**

## 3.1.5. Knowledge sharing

Since companies are created by human beings and knowledge is a personal property[83], this means that if a company loses an individual knower, they also lose the knowledge. In other words, the people and their knowledge is a great value for the company. In development of a product, either the case is to create a new product or if it is about improving an already exciting product, the availability of knowledge is fundamental. Collaboration comes into play here as well, because knowledge is usually not created by one person alone[84]. Bringing more people together when developing something will give a broader knowledge background and a more solid platform for performance achievement. Hansen (2009) addresses that *Better innovation happens because people from different areas – business units, divisions, country operations, technology centers, sales offices, marketing, labs – come together, create new ideas through these interactions, and go on to develop exciting products[85]*. This means that knowledge sharing

---

[82] Douma, M., U., Bilderbeek, J., Ildenburg P., J., and Looise J., K. (2000) *Strategic Alliances: Managing the Dynamics of Fit*, Long Range Planning, Vol. 33, Nr. 4, pp. 579-598, page 582

[83] Newell, S. Robertson, M., Scarbrough, H. and Swan, J. (2009) *Managing Knowledge Work And Innovation,* second edition, Palgrave Macmillan, Hampshire, page 3

[84] Newell, S. Robertson, M., Scarbrough, H. and Swan, J. (2009) *Managing Knowledge Work And Innovation,* second edition, Palgrave Macmillan, Hampshire

[85] Hansen, M. T. (2009) *Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results*, United States of America, page 26

can contribute to innovation; alliances are an arena for knowledge sharing where participants share their knowledge and information[86].

An innovative company depends on the technological skills and commitment of other companies[87]. Today, there is a high extent of new technologies reaching the world market. This means that companies will always be pushed towards doing things better and faster. The life cycle of technological life is shorter because of this; there will constantly come new and better solutions to the market[88]. Companies will be driven towards new thinking to reach out for resource allocation for a successful creation of innovative technologies. According to Chesbrough et al. (2006) and Rastogi (2009) a tool to cope with this can be research and collaboration and thereby shared knowledge. It is then important to keep all the partners in the alliance, and make sure that everyone gets a sufficiently large share of the pie[89].

Trust is a risk and a challenge within alliances, where companies need a certain guarantee that they will not be back stabbed if they share their information. *Alliances are intended to help firms cooperate better and also to help them compete better*[90]. There will never be a way to take away the trust issue completely, but certain help tools, such as legal contracts, can contribute to strengthen this, which will be reviewed further.

### 3.1.6. Trust

How much should one trust each other? This is a question that comes into play in many relationships and also in relationships of enterprises. According to Huxham and Vangen (2005), Child (2001) and Cullen et. al. (2000) mutual trust is a precondition for successful collaboration. Child (2001) has defined trust as "*trust concerns the willingness of one person or group to relate to another in the belief that the other's actions will be beneficial rather than detrimental, even*

---

[86] Grant, R., M., and Fuller, C., B., (2004) *A knowledge Accessing Theory of Strategic Alliances,* Journal of Management Studies, Vol. 41, Nr. 1, pp. 61-84

[87] Chesbrough, H., Vanhaverbeke, W. and West, J. (2006) *Open Innovation: Researching a New Paradigm*, Oxford University Press Inc., New York, page 206

[88] Chesbrough, H., Vanhaverbeke, W. and West, J. (2006) *Open Innovation: Researching a New Paradigm*, Oxford University Press Inc., New York

[89] Chesbrough, H., Vanhaverbeke, W. and West, J. (2006) *Open Innovation: Researching a New Paradigm*, Oxford University Press Inc., New York, page 212

[90] Casseres, B., G., (2006) *How alliances reshape competition,* SAGE publications, Chapter 3, (Handbook of Strategic Alliances), page 1

*though this cannot be guaranteed"[91]*. Trust is based upon what you think or expect from others, but you can *never know* how other human beings will think and act. Back to the husband and wife described in the beginning of the chapter, they often trust each other until the opposite is proven. There is no guarantee that someone in a relationship will not violate the trust.

Trust can be developed between social relations or through formalities, such as legal contracts[92] and it often takes some time before mutual trust between participants is present. In the start-up phase in a relationship, suspicion often appears and the trust is something that needs to grow and develop over time. The figure below illustrates this, where there are three steps in the relation-building[93]. The first step is *calculations* and is often found in new relationships where the partners do not have strong social relations towards each other. Before partners enter an alliance, they will calculate what benefits this will give them due to the costs and risks in the future. Formalities will be important in this step, such as legal contracts because the partners have few grounds for trusting each other[94]. This is because the social relations are not present yet, and the formalities will act as a safeguard in the partnership. The next step is *understanding* and occurs when partners are starting to know each other (see figure nine). This means that they have certain social relation to each other and expectations have been confirmed repeatedly over time. Confidence between alliances partners has grown and there is a positive attitude within the alliance, such as accept no cheating as true. The last step in relationship building and trust is *bonding*. Strong personal relationships can explain this step, such as relationships within family and close friends. There will be a high extent of mutual trust and a bond between these people will arise because of shared values and identity. Organizations that have worked together for a long period can also develop this bond. As mentioned before, organizations are social

---

[91] Child, J. (2001) *Trust – The Fundamental Bond in Global Collaboration,* Organizational Dynamics, Vol. 29, No. 4, pp. 274-288, page 275

[92] Child, J. (2001) *Trust – The Fundamental Bond in Global Collaboration,* Organizational Dynamics, Vol. 29, No. 4, pp. 274-288

[93] Child, J. (2001) *Trust – The Fundamental Bond in Global Collaboration,* Organizational Dynamics, Vol. 29, No. 4, pp. 274-288

[94] Todeva, E., and Knoke, D. (2005) *Strategic alliances and models of collaboration*, Management Decision, Vol. 43 Nr. 1, pp. 123-148

communities, and after working close together for a long time colleagues or partners can develop mutual psychological bond through mutual values and beliefs[95].

CALCULATION ⟶ UNDERSTANDING ⟶ BONDING

"Being prepared to work with you"      "Getting to know you"      "Coming to identify with you as a person"

**Figure 9 Phases in the Evolution of Trust[96]**

Trust can grow to be a significant issue in collaboration. How much each company should trust the other one can be a hard question to answer. Some might experience that trusting too much will put them in a bad position where they will be an easy target and trusting too little can let opportunities pass. Further, there are risks due to competitive advantage where partners of an alliance can use shared information for their own benefit. Barriers can be many, not only the issues of trust, and this will be enlightened in the next part chapter.

### 3.1.7. Barriers

Collaboration does not often happen naturally[97], and if this is something that is wanted there is a need to reach out and be aware of different barriers that can occur. Many people are concerned about self-esteem and they can have an approach where they think they know best. It is impossible to control people's way of thinking and acting. Personal behavior can occur as barriers within collaboration, such as people not wanting to reach out for others views because of the fear that they would need to elaborate their own knowledge, where this can give others the opportunity to take advantage of this shared knowledge. They are high status people and believe

---

[95] Child, J. (2001) *Trust – The Fundamental Bond in Global Collaboration,* Organizational Dynamics, Vol. 29, No. 4, pp. 274-288

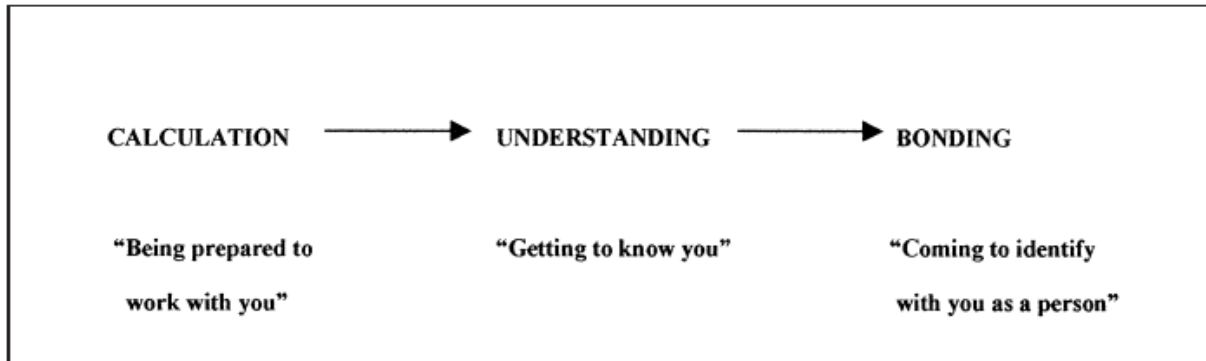[96] Child, J. (2001) *Trust – The Fundamental Bond in Global Collaboration,* Organizational Dynamics, Vol. 29, No. 4, pp. 274-288, page 283

[97] Hansen, M. T. (2009) *Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results*, United States of America, page 49

they know more than others. As Hansen (2009) addresses, these people will not reach out to collaborate with those "less worthy" human beings[98]. Another aspect can also be that people do not want to ask others for help, not because they do not want this help, but they fear the impression others will perceive of them. Vulnerability will be exposed at this point and there might be a fear that others will interpret the organization or person which asks for help as weak. This means that people might want to solve their own problems, rather than ask for help.

Barriers within collaboration are not necessarily only between organizations, but can also occur internally within one organization. It can be seen as competition between employees, where they do not want to help each other because they want to look best themselves[99]. Students at a university can be a good example of this. They all want their university to look good; it always looks good to graduate from a good university. At the same time they are often unwilling to help each other out while studying for an exam because they want to obtain a better result than their peers. If someone has access to exclusive information, they might keep this to their chest in the intention of receiving a better result.

A management control system often comes with a framework where there are clear rules about how the organization should be operated. Managers often want to look good for their owners, and drive the company towards best achievable performance. This means that they want to stretch out for own goals and might lack the interest of helping others reaching theirs. These management control systems can occur as a barrier within collaboration.

The pressure of performance, to look the best and do well can contribute to a time issue. Employees do not find time to help others. This can also be seen as a paradox, because owners of an organization want the best for their company. When people do not find time to help each other out, the people who need this help will use more time to figure things out themselves and thereby use more time of their working hours to do this instead of receiving help and get it done more quickly.

---

[98] Hansen, M. T. (2009) *Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results*, United States of America, page 52

[99] Hansen, M. T. (2009) *Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results*, United States of America

The size of companies can also be a barrier within collaboration. The bigger a company is the harder it is to have a good overview of who knows what. Today, there are many multinational companies with offices around the world and information search barriers get bigger as the companies grow. There are a lot of people with good knowledge in companies and in search for certain information it can be hard to know where to find this. There might be people within an organization who have the answer to a problem, but it can be hard to find this person[100].

Trust was described in the former chapter, and as mentioned trust is about dealing with risk, uncertainty and accepting vulnerability. This can emerge as a huge barrier, where it is hard for companies to know to what extent they should trust their allies. According to Tsai (2002), many multiunit organizations are today forced to both compete and cooperate with each other[101]. As described in chapter 3.1.5, within knowledge sharing, there is a need to allocate more resources to gain in best performance practice because of the need to be innovative and reach technology breakthrough faster. When competitors collaborate, the term "coopetition" is used, and this will be addressed in the next part chapter.

### 3.1.8. Coopetition

To cope with the issue of achieving best technology practice and at the same time doing this profitable, companies might see the benefit of cooperation. Companies that have the same technology and same goal often have the same product as well, and are therefore competitors. When companies cooperate and compete simultaneously it is called *coopetition[102]*. Knowledge sharing as described in chapter 3.1.5 is a common form for coopetition.

*In the context of global competition, coopetition is the simultaneous competition and cooperation between two or more rivals competing in global markets[103]*. In coopetition companies will collaborate, but in the global market they will compete. This means that companies develop an

---

[100] Hansen, M. T. (2009) *Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results*, United States of America, page 56

[101] Tsai, W. (2002) *Coopetition within a Multiunit Organization: Coordinating, Competition and Interorganizational Knowledge Sharing*, Organization Science, Vol. 13, No. 2, PP 179-190, page 179

[102] Tsai, W. (2002) *Coopetition within a Multiunit Organization: Coordinating, Competition and Interorganizational Knowledge Sharing*, Organization Science, Vol. 13, No. 2, pp: 179-190

[103] Luo, Y., (2007) *A Coopetition perspective of global competition,* Journal of World Business, Vol. 42 issue 2, pp. 129-144, page 130

alliance, and this alliance can compete in a globally market, such as reaching for the best technology, information, human resources, natural resources etc[104]. The idea behind coopetition is that companies within this collaboration should receive mutual benefit. Within coopetition, companies can cooperate in some areas and compete in others. This is companies within a competing market and they are still rivals, but to cooperate on specific actions or areas can give value added for the companies within the alliance. These areas can be such as research and development, long-term outsourcing or supply agreements, information systems, technology development etc.

Economical and strategical factors play a part in the cooperation in a global competition[105]. Today's interdependence between multinationals can lead to a focus upon the economical, technological and transactional interconnections between global rivals. The competitive pressure is rising globally and organizations can gain in competitive advantages by cooperation. Within an alliance companies will have an advantage by getting internal skills and technologies from their cooperating partners. This can be cost efficient, where organizations don't have to come up with new ideas and innovative skills by themselves. They can copy someone else's well functional skills.

As mentioned, in the global market today things happen fast[106]. Ability to change and do this with a high speed, such as improving production efficiency, quality control and product innovation is therefore almost a demand today. If a company does not come up with new technology or improvement, someone else will do it. Cooperation will therefore be an effective method to gain in this quick improvement[107]. Within coopetition companies will strengthen their market position within markets for members in the alliance. Further, risks taken will be shared and this will encourage R&D and innovation.

---

[104] Luo, Y., (2007) *A Coopetition perspective of global competition,* Journal of World Business,    Vol. 42 issue 2, pp. 129-144,

[105] Luo, Y., (2007) *A Coopetition perspective of global competition,* Journal of World Business,    Vol. 42 issue 2, pp. 129-144, page 131

[106] Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco

[107] Luo, Y., (2007) *A Coopetition perspective of global competition,* Journal of World Business,    Vol. 42 issue 2, pp. 129-144

## 3.2. Achievement of long-term business success

It is important for a company to think in a long term perspective, because of the ability to survive in time and be able to meet the needs of future generation[108]. This can be linked to the term *sustainability*, where a well known definition is from the Brundtland commission (1987); *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs"[109]*. Sustainability takes areas of environment, society and economy into consideration. Regarding the environment, there is often new technology that needs to be developed due to less pollution.

Within ecological economics it is vital to search for sustainable *paths* of economic development, where technology development plays an essential role in the search for sustainable paths[110]. The reason why technology development is important regarding sustainable paths according to Field and Olewiler (2005) is because there is an aim to find technology change that will leave less environmental footprint. Today, the global warming is something that is highly discussed, and with this there is a discussion about the anthropogenic releases of GHG emissions. Companies that have environmental damaging production can try to reduce these anthropogenic emissions by reaching out for better technology. This is something that often does not happen naturally, which means that it requires research and development to reach out for a new and better technology. Incentives for innovation regarding less pollution can come from *enforceability* or *moral considerations[111]*. Companies can be forced to do R&D and find new technologies that pollute less, because of policies and regulation from the government. The other incentive is about people's feelings about what is right and wrong, which can make companies do R&D to find new technology to pollute less.

Society is another important area for companies within the achievement of going towards a sustainable path. *Think about sustainability as the common ground shared by your business*

---

[108] Savitz, A., W., and Webber, K., (2006) *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economics, Social and Environmental Success and How You Can Too*, John Wiley & Sons, Inc., San Francisco

[109] The World Commission on Environment and Development (1987), *OUR COMMON FUTURE*, Clays Ltd., Suffolk, page 43

[110] Field, B., and Olewiler, N., (2005) *Environmental Economics,* Second edition, McGraw-Hill Ryerson, Canada, Page 10-11

[111] Field, B., and Olewiler, N., (2005) *Environmental Economics,* Second edition, McGraw-Hill Ryerson, Canada

*interest (those of your financial stakeholders) and the interest of the public (those of your nonfinancial stakeholders)[112]*. This can be seen as a common good for all parts involved within a industry or process. Savitz and Webber (2006) call this the sweet spot of sustainability. Profit should be blended seamlessly, and the outcome of a business operation should be as a common good, which illustrated in figure ten below. This means that companies that try to move into their sweet spots would try to enrich their local community on a daily operational basis. Thereby these companies would not have to give money contribution or do charity to their local community, because this is naturally in their everyday basis[113].

---

[112] Savitz, A., W., and Webber, K., (2006) *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economics, Social and Environmental Success and How You Can Too*, John Wiley & Sons, Inc., San Francisco, page 22

[113] Savitz, A., W., and Webber, K., (2006) *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economics, Social and Environmental Success and How You Can Too*, John Wiley & Sons, Inc., San Francisco, page 21
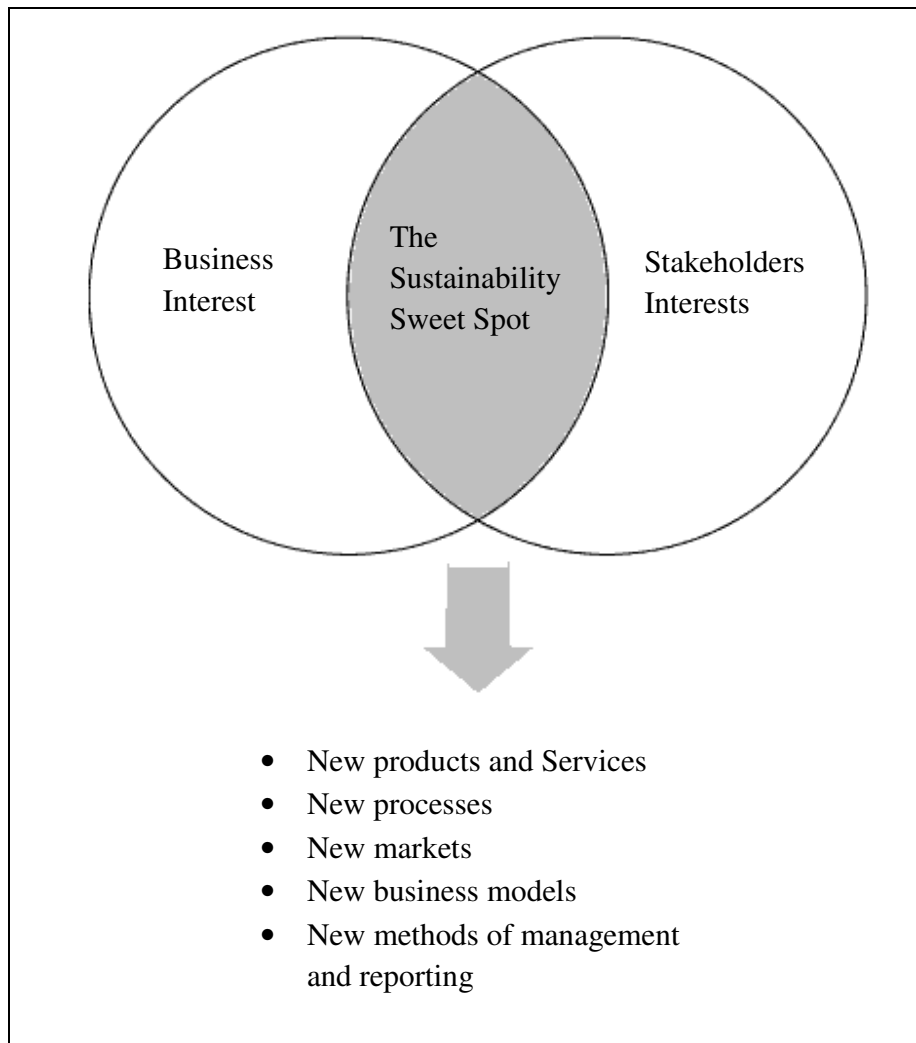
**Figure 10 The Sustainability Sweet Spot**[114]

The World Business Council for Sustainable Development states that sustainability can improve the management in three fundamental ways; by help protect it, run it and grow it[115]. Protecting the business is based upon the aspects of reducing risk of harm to customers, employees and communities. This is because the risks are being identified early on which will add earlier management of possible failures. The second aspect, running the business means that the company can do better by implementing eco-efficient procedures, such as reduced costs due to

---

[114] Savitz, A., W., and Webber, K., (2006) *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economics, Social and Environmental Success and How You Can Too*, John Wiley & Sons, Inc., San Francisco, page 23

[115] Savitz, A., W., and Webber, K., (2006) *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economics, Social and Environmental Success and How You Can Too*, John Wiley & Sons, Inc., San Francisco, page 33

less waste and improvement within productivity. This will lead to a possible increase in a company's profitability and at the same time decrease the environmental impacts. Last, growing the business includes increasing the peace of innovation, improving customer satisfaction and loyalty and thereby a larger market share. Growth can also include forming new alliances with business partners and other stakeholders[116].

Though, implementing sustainability in business can be expenditure for companies. Capital will be transferred from shareholders towards stakeholders, especially in the short term[117]. Also implementation issues may occur e.g. where not all the stakeholders agree to transfer more capital towards the stakeholders. In the long term this can be resolved by considering this as a long-term investment, but conflicts between shareholders and other stakeholders can clearly emerge.

## 3.3. Summary

In this chapter I have given a review of different aspects within cooperation and how to achieve long term perspective within a corporation. This is core in my research and I will attach this to my empirical findings later in chapter six. I used Hansen (2009) methodology to describe the core of collaboration, where he also state that cooperating companies can expand their access to resources, both human and capital, which can contribute to better innovation in organizations. When creating an alliance, it is further important, regarding Bergquist and colleagues (1995), to settle the means so that everyone involved has the same perception of what this alliance is about. I further looked at Duoma et al. (2000) methodology of partner selection within creating an alliance. Collaboration seldom comes naturally, and therefore partner selection is an important step that needs to be considered. Knowledge sharing and collaboration goes hand in hand, and at this point the issue of trust can emerge. I have touched upon Child (2001) definition of trust, where it is important for alliances to be aware of trust issues that can emerge. It is also important that organizations within an alliance are aware of barriers that can emerge, which can help them

---

[116] Savitz, A., W., and Webber, K., (2006) *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economics, Social and Environmental Success and How You Can Too*, John Wiley & Sons, Inc., San Francisco, page 35

[117] Savitz, A., W., and Webber, K., (2006) *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economics, Social and Environmental Success and How You Can Too*, John Wiley & Sons, Inc., San Francisco

cope with these issues. In chapter 3.2, I have used Savitz and Webber (2006) to explain the means of a long term perspective for a company, and how to go towards a sustainable path.

Before enlightening the empirical findings and discussion of this thesis, I will give a review of the methodological assumptions. This is to provide for an understanding of how I have followed through this research.

# 4. Methodology

In the following I will address which methodological approach is most appropriate for this study. I will explain which research design that support my research, how I will do sampling of data and how I will conduct data, which will result in empirical findings throughout this research. After my data is collected, I need to analyze it in order to interpret my findings. I will give the reader an understanding of how the data is organized and interpreted. Then I will address the validity and reliability after I have explained how to do the analysis. Ethical assumptions are also important and are therefore something I will enlighten in this chapter. At the end of this chapter I will elaborate strengths and weaknesses of my study.

## 4.1. Research methods

Methodology is important within a research because it gives directions how to approach information about a problem, and how this information should be analyzed. This means that methodology becomes a scientist's systematic and controlled tool for a valid and reliable study[118]. This means that the methodology makes a study to be conducted in the right manner[119]. There are no better or worse research methods, but to conduct a good study you need a method that supports the goal for the study[120]. This is something have considered in my choice of methods for my study. With this chapter I will state the reasons for my choices, regarding

---

[118] Marczyk, G., R., DeMatteo, D., and Festinger, D. (2005) *Essentials of Research Design and Methodology*, John Wiley & Sons, Inc., New Jersey

[119] Marczyk, G., R., DeMatteo, D., and Festinger, D. (2005) *Essentials of Research Design and Methodology*, John Wiley & Sons, Inc., New Jersey

[120] Silverman, D., and Marvasti, A., (2008) *Doing Qualitative Research: A Comprehensive guide*, SAGE publications, Inc., California, page 147

methodologies used, both practical and theoretical. I will start with some brief definitions of the methodological concepts, and then I will elaborate on my method decisions.

### 4.1.1. Qualitative research

Two methodologies are well-known in methodology, which are qualitative and quantitative approaches[121]. The qualitative method put its attention in text and deep understanding of a phenomenon. Quantitative method put its attention towards numbers where cause and affect are the motive to research. I found it useful to adapt a qualitative method as a tool in my research, because I wanted knowledge of how OSLI act in the oil sand industry to accommodate environmental standards and concerns. To answer this, I found it necessary to go deeper into the concept of the collaboration OSLI, because I am searching for an understanding of the people involved and how they interpreted different aspects of this alliance. To achieve this knowledge, I would need to talk to people and understand their sentiment around OSLI.

One of the things that depart qualitative and quantitative collecting is the extent of structure[122]. In qualitative research, there is a high extent of openness and flexibility. I wanted and needed the opportunity to be flexible, because problems I had not thought about up front could emerge. I could read a lot about the oil sand industry, but there are as mentioned in chapter 2.6 little information about OSLI which means that I could not reach out for much information before I conducted my empirical findings. This means that my research could need the ability to take other considerations than first anticipated.

There are two philosophical traditions, or *paradigms* that are most common in the literature, which is positivism and social constructionism[123]. Smith et al. (2008) defines paradigm as: *"a consensual pattern in the way scientists understand, and inquire into, the world"[124]*. A researcher that is a positivist will see the world externally from everything else. The research will need an

---

[121] Johannessen, A., Tufte, P., A., and Kristoffersen, L., (2006) *"Introduksjon til samfunnsvitenskapelige metode"*, Abstrakt forlag, Oslo, page 36

[122] Johannesen A., Kristofferesen L. and Tufte P. A. (2004) *Forskningsmetode for økonomiske og administrative fag*, Abstrakt forlag, page 363

[123] Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London, page 28

[124] Smith M., E., Thorpe, R., and Jackson, P., R., (2008) *Management Research*, third edition, SAGE publications Ltd, page 331

ability of operationalization, which means that the facts must be measured quantitatively[125]. According to Smith et al. (2002) the social constructionism paradigm focuses upon that the reality is determined by people, and not external factors. A researcher focus is to figure out how people feel and think through communication verbally or non-verbally[126]. I wanted to explore how people think when it comes to problem solving in the oil sand industry and how they believe this should be implemented. I would not search for certain patterns, but people's feelings and way of thinking is important in my study. Therefore I find myself as a researcher in the social constructionism paradigm, which also supports my choice of a qualitative method.

I will use table four below to sum up and illustrate the differences between qualitative and quantitative research method, which also will provide a picture of my choices throughout this study.

| Qualitative approach | Quantitative approach |
|---|---|
| Examine soft reality | Examine hard reality |
| Understanding the meaning | Cause and effects |
| Goes in depth | Gives superficial information |
| Understanding the whole | Limited understanding |
| Closeness to the phenomenon that is studied | Distance to the phenomenon that is studied |

**Table 4 Characteristics of qualitative and quantitative research[127]**


## 4.1.2. Inductive and deductive approach

Deductive- and inductive reasoning can be helpful tools for the decision of which choice of methods a researcher wants to use[128]. Deductive moves from theory towards empiricism, which means that it goes from the general towards the concrete. The inductive reasoning starts the other

---

[125] Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London

[126] Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London,

[127] Johannesen A., Kristofferesen L. and Tufte P. A. (2004) *Forskningsmetode for økonomiske og administrative fag*, Abstrakt forlag, page 386

[128] Johannessen, A., Kristofferesen L. and Tufte, P. A. (2004) *Forskningsmetode for økonomisk-administrative fag,* Abstrakt forlag, page 53

way around moving from empiricism towards theory, which means conclusions are draw from the specific towards the general. This means that inductive will be close to qualitative, and deductive will be close to quantitative research.

Based upon my research question, I will use qualitative research as mentioned. The paradigm I find myself in as a researcher also supports this decision. Further, my research gave me a need to understand how the OSLI consortium works, and what they are doing in the oil sand industry. To answer this I had to talk to people and understand what these companies involved do and have done related to environmental issues in this industry and then attach this to theory. Therefore my study will be found as an inductive reasoning, where it will go from empiricism towards theory. This supports the choice of a qualitative research as the best research method to answer my problem statement. I wanted to end up with some specific detailed knowledge about how OSLI act towards a better future to accommodate with the environmental standards and concerns in the oil sand industry. To achieve this, I first looked into previous literature, as described in chapter two. This gives me and the reader background information about the oil sand industry, and an overview that will assist my understanding of the complexity in this industry.

### 4.1.3. Research design

The decision making for research design is about making choices about what will, and will not be observed[129]. I needed to decide whom and what to examine and how my study consistent should be. Johannessen et al. (2004) argues that there are four research designs within qualitative research in economical areas. These are phenomenology, ethnography, grounded theory or case study[130].

The case studies look in depth to one or more phenomenona. A case study can be used for studies which are explorative, descriptive, explanatory, understanding or appraising[131]. Regarding Punch (1998), a case study can be seen as: "*the basic idea is that one case (or perhaps a small number of cases) will be studied in detail, using whatever methods seem*

---

[129] Smith M., E., Thorpe, R., and Jackson, P., R., (2008) *Management Research*, third edition, SAGE publications Ltd, page 82

[130] Johannessen, A., Kristofferesen L. and Tufte, P. A. (2004) *Forskningsmetode for økonomisk-administrative fag,* Abstrakt forlag, page 80

[131] Johannessen, A., Kristofferesen L. and Tufte, P. A. (2004) *Forskningsmetode for økonomisk-administrative fag,* Abstrakt forlag, page 84

*appropriate. While there may be a variety of specific purposes and research questions, the general objective is to develop as full an understanding of that case as possible[132]"*. Within the search for one phenomenon, a researcher should try to gather a big amount of data, where the desire is to understand the complexity and social aspects of a phenomenon[133]. Case studies are all time- and place dependent. In my study I want a large amount of data to gain knowledge and understanding about the consortium of OSLI.

Based on the assumptions above, I found case study as an applicable research design for my study. Regarding Silverman and Marvasti (2008) there are three analytical features of case study research[134]. First, the case needs to have boundaries identified in an early stage of the research. This means that the researcher needs to know what to study and how to refine the research. In my research, I refined my study to the five companies involved in OSLI where I ask how they act in relation to environmental standards and concerns. This was also defined early on in my study. Second, the research strategy needs to be clarified which means that the unit of analysis must be defined. This was clarified early on in my study, where I found it appropriate to have members of OSLI as my unit of analysis. I will explain later in this chapter how this is done. Third and last, a case study needs a wholeness and integrity of the case. To manage this, there will be a need to limit the research problem to gain specific features of the case studied. The oil sand industry is huge, and I have limited my research problem to how OSLI accommodate for environmental standards and concerns. However, this was not clear in the very beginning, but rather early in my study. After looking into the phenomenon of *the oil sand industry*, and gained some knowledge and extent of this industry I discovered the consortium of OSLI and my curiosity increased here.

---

[132] Punch, K., (1998) *Introduction to social research: Quantitative and qualitative approaches.* SAGE publications Inc., London, page 150

[133] Yin, R (2009) *Case Study Research, Design and Methods,* Fourth edition, SAGE publications, Inc., California, page 4

[134] Silverman, D., and Marvasti, A., (2008) *Doing Qualitative Research: A Comprehensive guide*, SAGE publications, Inc., California, page 163

## 4.1.4. Sampling

Before conducting data for a research it is important to know the purpose of the study[135]. This means that the researcher needs to know what to look for, and how the data collection best can be conducted related to the study. Sample size, sample strategy and how to recruit respondents are some steps that the researcher needs to decide before gathering data in the qualitative research[136]. Strategic sampling can have an influence on the data and analysis, which makes this step important. In qualitative research it is not usual to recruit respondents randomly, because the meaning is to generate transferable knowledge. This makes the recruiting a purposeful sampling. Saunders et al. (2007) state that sampling techniques provide a range of methods that enables you to reduce the amount of data you need to collect by considering only data from a subgroup rather than all possible cases or elements[137]. A sample of respondents is taken from one population, where it is important that this population is representative for all the respondents.

The size of informants can be hard to decide, but in my study I found it useful to interview the five companies involved in OSLI. Strategic sampling can have an influence on the data and analysis, which makes this step important. In qualitative research there are different ways of recruiting, and according Saunders et al. (2007), different sample types are; quota, purposive, snowball, self-selection and convenience[138]. In my research have talked to people within OSLI, but my knowledge of OSLI and the people working within it are rather low. In other words, it was difficult for me to identify which members to talk to. This is because I knew which companies are involved in OSLI, but I did not know who works within this consortium. Therefore I got in touch with these companies and made them decide with whom it would be most profitable for me to talk to. This means that I found my respondents through other people, which is the approach of snowball-effect.

---

[135] Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London

[136] Johannessen, A., Kristofferesen L. and Tufte, P. A. (2004) *Forskningsmetode for økonomisk-administrative fag*, Abstrakt forlag, page 105

[137] Saunders, M., Lewis, P., and Thornhill, A. (2007) *Research Methods for Business Students*, fourth edition, Prentice Hall, Essex, page 204

[138] Saunders, M., Lewis, P., and Thornhill, A. (2007) *Research Methods for Business Students*, fourth edition, Prentice Hall, Essex, page 228

In my study, I have used both secondary and primary data. I gathered primary data through interviews in the research. Secondary data is addressed in chapter two, and is already written material or selected by others which is interesting for me in this research.

## 4.1.5. Data collection

Regarding Smith et al. (2002) interviews, individual or/and in a group, are often seen as the best method of gathering information in a qualitative research. Up until this point, I have chosen to perform a qualitative research with case study as design and in the search for right respondents it is my case that is determine for which data collection strategy to use. I want to achieve in-depth information about my phenomenon, and therefore I will choose interviews as the way to conduct my empirical findings. This is because I want to examine and understand the meaning regarding how OSLI act towards a better technology development to accommodate environmental improvements. This is something I do not have prior knowledge about, and interviews will help me collect information regarding my problem statement.

To help structure the interviews, I made an interview guide. Interviews can be followed through as high-structured-, semi-structured-, or un-structured[139]. I needed to have a plan for how to structure the interviews before I followed them through. I needed the opportunity to compare the interviews and answers after they are done. Further, I wanted the opportunity to elaborate themes that I did not think about up front. This lead me into a semi-structured interview, which both gave the respondents a possibility to elaborate themes they felt was important and gave me an opportunity to find this information. Within a semi-structured interview, the interview guide functions as the basis throughout the interview. This means that the sequence of questions and subject might vary. When making the interview guide, used secondary data addressed in chapter two, which gave me valuable background information and helped the interview guides to be made better.

During the interviews I used a recorder in order to obtain all the information elaborated during the interview. This gave me a possibility of transcribing the interview in the aftermath, which

---

[139] Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London

allows me to return the data in its original form[140]. I conducted the interviews at my respondents' offices where they felt *safe and secure*. I asked the respondents for permission to use a tape recorder and let my objects manage it. This was in order to give them control over the recording.

## 4.1.6. Analysis

The most critical thing within qualitative data is how to condense highly complex and context-bound information into a format that tells a story in a fully convincing way to the reader[141]. Secondary data will supply my study with information that I did not get from the respondents.

According to Yin (2009) there is no clear and specific strategy for how the analysis should be in a case study. A researcher can use many different analytical techniques, where five of them are pattern matching, time-series analysis, logic models, cross-case synthesis and explanation building. I have focused on explanation building, where the goal is as in the name indicates; to analyze the case study data by building an explanation about the phenomenon, such as *how* or *what* something happened[142]. The goal here can also be to develop theories for further studies.

In qualitative research, the structure has to be derived from the data[143]. The transcripts of my interviews helped me in the analyzing process. I needed to identify patterns from my raw materials, which are the interviews I have conducted. Further, to systemize my findings I have categorized my findings. As I seek deep understanding and want to achieve as much data as possible, I chose to write the whole interview into text. After this was done I further made codes that helped me interpret my findings[144]. This is to organize the data into subjects based upon key words related to the research question. In my study I ended up with five main categories;

---

[140] Silverman, D., and Marvasti, A., (2008) *Doing Qualitative Research: A Comprehensive guide*, SAGE publications, Inc., California, page 198

[141] Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London, page 117

[142] Yin, R (2009) *Case Study Research, Design and Methods,* Fourth edition, SAGE publications, Inc., California page 141

[143] Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London, page 122

[144] Silverman, D., and Marvasti, A., (2008) *Doing Qualitative Research: A Comprehensive guide*, SAGE publications, Inc., California

- Start up of OSLI – which addresses who are they, why are they and what is their aim

- Social license to operate – the companies face challenges due to the public perception of the industry

- Cooperation and conflicts – OSLI companies have made an alliance to cope with problems in the industry, but face challenges within their work

- New technology and innovation – how to achieve new technology within the oil sand industry

- Environmental concerns – how to cope with the issues towards the environment

These categories are the selection I made after conducting my interviews which will represent my thesis. The analyzing part in chapter six will be enlightened on these main subjects, but I will include other categories as well to be able to get the deepest and most complete picture as possible.

## 4.1.7. Validity and reliability

A good research measures what it is suppose to measure. In quantitative research, there are quantifiable analytical tools to ensure the quality of data or there are statistical tests. Within qualitative research this is not as easy to measure, where the researcher has in-depth knowledge of the phenomenon. The findings have to be proven based on critical investigation of the data[145]. This is because researchers need to show the audience that the methods are reliable and the conclusion valid. Regarding Silverman and Marvasti (2008), if this is not there within a study, there is little point in aiming to conclude a research dissertation. Seal (1999, from Silverman and Marvasti 2008) refers to this as *methodological awareness*. The term *validity* and *reliability* is used when a researcher is about to ensure the quality in a study, and cope with the methodological awareness. In the work of transcribing my empirical findings ensured to have the correct statements addressed from the interviews. Further, I coded this to organize my data in order to analyze and interpret this material. This will be a part of strengthen the interpretation of

---

[145] Silverman, D., and Marvasti, A., (2008) *Doing Qualitative Research: A Comprehensive guide*, SAGE publications, Inc., California, page 259

my findings, and it will make me as a researcher able to cope with the methodological awareness because I have the accurate statements in order to work my way forward.

According to Silverman and Marvasti (2008), *validity* is another word for truth[146]. A characteristic of good research is high validity. If the research measures what it is supposes to measure then there is internal validity[147]. External validity refers to if the research can be transferred to similar settings, situations or context[148]. In qualitative research, the goal is not to generalise, but to transfer knowledge – get an in-depth view of the phenomenon. This will strengthen the validity of my research.

Which data is used, the way it is collected and how it is processed attaches to the reliability[149]. In qualitative research, it is difficult to put this into a test. There is often the interview – the conversation that controls the data collection, which means that there is no structured data collecting technique. In my study, I use myself as a tool, and there is no one else that has exactly the same experience and background. That means that it would be hard for another researcher to put him/her-self into my interpretation process. I can strengthen the reliability by giving the reader a detailed description of the data, which methods to use and how to use it, decisions made and how I found my conclusion in my research. This gives the reader an opportunity to follow my thoughts through the process and my interpretations. This chapter of methodology will therefore strengthen the reliability of my research, because I give the reader clarifications of how I attend to do this research.

## 4.1.8. Ethics

Ethics are about which actions are right and wrong in relation to principles, rules and guidelines. Ethical questions regarding the way human beings indirectly or directly affect each other can be

---

[146] Silverman, D., and Marvasti, A., (2008) *Doing Qualitative Research: A Comprehensive guide*, SAGE publications, Inc., California, page 259
[147] Johannessen, A., Kristofferesen L. and Tufte, P. A. (2004) *Forskningsmetode for økonomisk-administrative fag,* Abstrakt forlag, page 228
[148] Johannessen, A., Kristofferesen L. and Tufte, P. A. (2004) *Forskningsmetode for økonomisk-administrative fag,* Abstrakt forlag, page 229
[149] Johannessen, A., Kristofferesen L. and Tufte, P. A. (2004) *Forskningsmetode for økonomisk-administrative fag,* Abstrakt forlag, page 227

raised[150]. A responsibility lies with the researcher, which means that there are certain aspects to consider. As a researcher, I have a responsibility in relation to the data collection and towards my respondents. I need to inform my objects about the contents in my study and respect their willingness to contribute. By this I mean that there may be things my interview objects do not want to share with me, and they might want to be anonymous. These are both aspects I need to respect in relation to my study. As I am doing a qualitative research and collect data through interviews, it means that I will be close to my respondents during the data collection. It is important to receive accurate information. If the trust is not there, it might happen that some information will retain. Therefore, trust between the interviewer and the interview-object is important, where the one giving information needs to trust that the information will not be misused. I might be in the situation where I will be given confidential information, so it is important to clarify guidelines and procedures prior to the interview.

In a research it is important that the researcher handles the data with respect[151]. This regards both the recordings from interviews and the secondary information used in the study. It is important that abuse and plagiarism do not occur. Abuse can occur if I use confidential information in a way that I agreed not to, or use names during my thesis which were not permitted. To cope with these issues, I will ask my respondents if I can use their names in my study and respect their desire towards this.

I will use a semi-structured interview, which means that the respondents can address views themselves. Therefore, it is important that I as an interviewer do not bring up themes that are experienced as aggressive or intimate. Further, it is important that I as a researcher do not lead the answers in one or another direction, which can make my respondents feel unconfident and not respected. In my research I am going to interview people within oil sands, and I have to be prepared to meet this phenomenon without an already "settled mind" about the theme

---

[150] Johannessen, A., Kristofferesen L. and Tufte, P. A. (2004) *Forskningsmetode for økonomisk-administrative fag,* Abstrakt forlag, page 91

[151] Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London

### 4.1.9. Strengths and weaknesses

In research, and in its methods, there can be strengths and weaknesses. In this chapter, I will address which strength and weaknesses relevant for my study.

The social constructionism paradigm is strengthening in the way that the researcher tries to understand people's opinions and seeks a deeper understanding. In other words, as a researcher I am not superficial and my data should be natural, rather than artificial. This means that I have to go through with my research process as I have described in the methodology chapter in this thesis, and make interpretation from the data collected, not just make interpretation from what I expect or want to find.

According to Thorpe et al. (2008), weaknesses can be addressed to the data collection, which is a very time-demanding process[152]. In my research I might not be able to go through with as many interviews as preferred. This is something I have thought about up front, and designed my study due to this. I would argue that the five interviews gave me a good and deep knowledge of the consortium I am studying. Weaknesses can occur in the analysis due to the researcher's interpretation of the data collected. In my study, I will be the one interpreting my data, where the product of this study will rely on my knowledge and views. This can transfer my interpretation to the reader, which will reflect how I did this. Another weakness in qualitative study can be that there is a lot of information that needs processing. If I categorize this wrong or misunderstand the opinions of my informants, the outcome of my study will be incorrect.

Qualitative research goes in depth of a phenomenon and it is a complex study with high extent of openness and flexibility. In my research, I will conduct my data through semi-structured interviews. This gives me the opportunity to both be flexible and gain in depth information about OSLI. I will further have the opportunity to contact my interview objects in the aftermath if there is something which appears unclear or I need some follow up questions. I will argue that these aspects will strengthen my study regarding data collection. What can appear as a weakness is that the interview objects might not feel comfortable in the interviewing process. This can contribute to the fact that they will not elaborate as much information as would be profitable for me to

---

[152] Smith M., E., Thorpe, R., and Jackson, P., R., (2008) *Management Research*, third edition, SAGE publications Ltd, page 72

receive, or in worst case that I get inaccurate information. To cope with this problem I visited my objects at their offices in order to make them feel confident. I further gave them the opportunity to manage the tape recorder and a possibility or choice of being anonymous.

Another weakness in qualitative research can be the informants. This is because they might not see any benefit or value in the study, and this can make them give fake or wrong information[153]. The respondents might not take the study seriously enough, which can contribute to superficial answers. Further, there might be a situation where my respondents answer what they think I want to hear. I have coped with these problems by informing my respondents about my study up front, where I e-mailed them the theme of my study. While giving them a little bit of information about my study, they also gain information about what I do and what I want. By this they can prepare themselves regarding the subject received. I got positive response for doing this at my interviews, where they all had read my proposal for my thesis, and they seemed interested in my theme as well.

In a case study, the study will focus directly on the topic[154]. In my study, I will interview people that are involved with the oil sand industry and with good knowledge within OSLI. This will give me the possibility to achieve deep understanding and explanation about my case. A weakness in case study is that they provide little basis for scientific generalization[155]. Every case is a special case, and to be able to generalize a study there is a need to transfer this to another study which means that the phenomenons need to be almost identical. This can be strengthened though, trough multiple-case studies.

There can be weaknesses towards secondary data related to articles. I do not know the intentions of the authors in the literature, which I will use in my study. It might happen that they have experienced something, which makes them especially concerned about some specific themes. I cannot know that their sources are trustable. This can happen in my study as well, my respondents can have experienced something towards my phenomenon that makes them critical

---

[153] Smith M. E., Thorpe R. and Lowe A (2002) Management Research, An Introduction, SAGE publications Ltd, page 166

[154] Yin, R (2009) *Case Study Research, Design and Methods,* Fourth edition, SAGE publications, Inc., California., page 102

[155] Yin, R (2009) *Case Study Research, Design and Methods,* Fourth edition, SAGE publications, Inc., California., page 15

or have some special views on the theme. If they do not inform me about this, it can affect my findings.

## 5. Empirical findings

In this chapter I will present my findings, and give the reader a picture of how the consortium of OSLI actually functions. In chapter 4.2.6, I addressed the main categories I ended up with after coding my interviews. This chapter will enlighten these five categories based on the angle addressed through the research questions. I will start with the *story of OSLI*, from the view of my informants. What they do is to work *collaboratively*, which they have not done before. I will therefore address how they do this. Within an alliance, *trust* can emerge as issues and have also been seen in OSLI, which I will enlighten in this chapter. From figure six in chapter 2.5, one can see that OSLI looks like a company without being a corporate entity. This leads the next part chapter into how to handle the *funding* of this group, who are the decision takers of how and what to spend money on. This pilot furthermore into the aspect of *innovation*, where they want to use capital on research and development of new and better technology. *Stakeholders and social license* is something OSLI sees as core in their alliance, where they find themselves responsible regarding the society and the environment. There can emerge different challenges when working together, it is not always a dance on roses. Therefore I will address the *internal and external challenges* that my informants elaborated. Ending this chapter, I will look at *the risks* within OSLI.

In my research I have interviewed five people from the companies involved with OSLI. These persons are Brian Doucette (Suncor), Bob Mitchell (ConocoPhillips), Wendy Brown (Total), Kristjan Geekie (Nexen) and Clyde Fulton (Statoil). They all have good knowledge and experience within the oil sand industry. I will use narrative accounts from the interviews to provide a perspective of how the informants have responded, and get a picture of their story and how they think.

### 5.1. OSLI, the story

In 2007 the idea of OSLI, the Oil Sand Leadership Initiative, was born. The first meeting happened in January 2008, and this was the creation of OSLI. People within the oil sand

companies witnessed that the public had a negative perception of this industry, where some of these perceptions was right, but also many was incorrect. What the public believe is right becomes challenges the industry faces. Companies within OSLI want to revolve this public perception of the oil sand industry. Bob Mitchell has worked in the oil sand industry for 30 years, both in the government sector and the private sector. The last two and a half years he has worked for ConocoPhillips in Calgary, Alberta. He was one of the main initiative takers to create OSLI. Together with Peter Dickie (passed away) and the vice president of Suncor, Gord Lambert they developed the concept of OSLI. Bob Mitchell says during my interview: *"We felt we were in the same place to the chemical industry before the crisis of Bhopal[156] and the release of massive chemicals thousands of people in India happened, and their social licence to operate went into jeopardy, we felt we were in the same position as an a industry and with one big event public opinion could turn against us, with one major incident you can lose the social licence to operate so we decided we had to get out ahead"*. The initiative takers of OSLI invited seven companies to join this group where six of them wanted to be a part of this. The players of this collaboration were according to Brian Doucette selected based on their view, and he says: *"The six companies were selected based on their progressive thinking towards the environment and sustainability"*. ConocoPhillips, Suncor (and formerly Petro-Canada), Nexen, Total and Statoil are today members of OSLI. The players in OSLI tried to bring together companies that are likeminded, and that want to make a difference in this industry.

## 5.2. Collaboration

OSLI has brought people from different companies together, to work collaboratively towards a better oil sand industry. There are other industry groups today like CAPP (Canadian Association of Petroleum Producers) that represent the oil sand sector, but many of them are working to respond to the regulations from the government. OSLI wants to be something different; they want to think "outside the box" according to Wendy Brown, to improve the whole performance of the industry. Government of Alberta are observers in the OSLI consortium, because they help the companies understand where the governments think that the industry needs to go but they are not members because that could be seen to as a reason that these companies might get special treatment. Bob Mitchell enlightens this by saying; *"The provincial government cannot be*

---

[156] What is Bhopal: http://www.eoearth.org/article/Bhopal,_India, Appendix nr.3

*members of our group, because we are all regulated by them, so they need to be an arm length from us. They could not join a group that is exclusive, others in our industry would wonder why they are in a special relationship with us, do we get preferential treatment in the hearing or regulatory decision by the regulator if they are a part of our group?! They need to be observers".*

According to Wendy Brown, all the participants in OSLI signed a charter which is a ten pages document explaining OSLI's beliefs, mandate and objectives. This was signed by all the companies' chief executive officers (CEO's) and the Ministers and Deputy Ministers of Energy and Environment. This clarifies values, purpose and goals within this alliance. Wendy Brown says: "*This was an opportunity to work collaboratively with other companies that had the same attitude as us essentially*". From the interviews I have conducted, I found that all the participants have the same vision of OSLI, they want to create a step change in the oil sand industry towards much better environmental, social and economic performance. Learning from each other is an important step in this collaboration and reaching out for their goal. OSLI members have conducted benchmarking of their environmental performance where this showed which of the companies had better performance. After this was done, the participants could learn from their new colleagues and implement operations that had a high benchmark and the best performance.

Within OSLI there are five working groups, Land Stewardship, Water Management, Sustainable Communities, Carbon Management/Energy Efficiency and Technology Breakthrough, as addressed in chapter 2.5. With these groups, the OSLI companies hope to develop projects that can be implemented in their business. Members of OSLI provide for resources such as people and finances which will make them get these performance breakthroughs, as Brian Doucette says "*All companies come to the table and provide people and resources to actually do the work to get these performance breakthroughs*". This is a way to work collaboratively to reach out for a better industry through research and development, where five companies share the cost and effort to do this.

### 5.2.1. Trust within the OSLI consortium

In cooperation, trust can be a significant issue, and this has also been an issue in the OSLI consortium. Regarding all my interviews, trust and sharing information has been one of the

biggest challenges. According to Kristjan Geekie, they all liked to share up to a point, and he says *"it's a problem with willing to share something that could be a competitive advantage … You think you know better than I do, you probably don't. Cause we are all learning a lot of things together, and it's about getting everybody to that point, and getting them to agree that we might not be as smart as we think. Therefore the willingness to work together in order to get smarter and make changes should emerge"*. In my interviews I asked all the five respondents if they see themselves as competitors. All but one said that they did not see themselves as competitors, but rather friendly rivals. But when it comes to the question of trust, sharing of information and transparency, they still talk about this as an issue related to competition and where it can be a risk because someone could use shared information against them. Oil sand is a huge industry, and there are many players involved. In technology development, there might be shareholders that have paid for this and they do not always want to share this information. It becomes a question about intellectual property. This is something people often want to protect, but in the reality this often will get known in short time and others will copy the great technology anyway. Working together and realize that instead of spend a lot of money, time and effort to develop something by one own it might be more profitable to work together with other players. This can gain in a quicker result and the cost of development will be shared. *"If you want to drive performance breakthroughs at the rate that we are committed to do, then you have to be prepared to stand on someone's shoulders and have others stand on yours"* (Bob Mitchell).

The trust has been improving in OSLI, and people are more willing to share. A company is actually people, and the fact that the trust has been improving might be a result of personal relationships that the members have developed between with each other. Clyde Fulton says *"it takes time to learn and it takes time to build trust"*. Today they all know each other better than in the beginning, and the trust has been earned through personal experiences, which Clyde Fulton address: *"We have a team where our executives expected us to produce results and we can only do that if we trust each other and we share openly with one and each other. That type of human relationship has developed into friendships with people that I did not previously know. For instance, I attended a social engagement last night with a colleague from Total. It's a natural evolution of a relationship that develops with trust"*. This shows how participants within OSLI see their collaboration partners as colleagues.

## 5.2.2. OSLI and funding

OSLI functions like a company, without being a corporate entity. On top, there is a Steering Committee which acts as a board of directors and look after the strategic governance of the consortium. Under them there is a Coordinating Committee which works as the president or the chief operating officer. At the bottom the five working groups are allocated with leaders from the participating companies. Finances are split equally between the five companies at this administrative level. According to Bob Mitchell, who is a co-chair of the Coordinating Committee, the budget of OSLI in 2008 was 225 000 dollars, in 2009, 1, 2 million dollars and in 2010 the budget is about 10 million dollars. This amount is an agreement between the participants involved. When the working groups comes up with projects, each company can look into this and choose if they want to be a part of it or not. There might be things that are interesting for some companies and less interesting for others. Such as development of mining, not all the companies use this technology, for example Statoil only uses in-situ technology to inject steam and extract the oil up oil wells. In development and implementation of a project, the project operator might want to spend money that is not in the budget that OSLI agreed to. If this happens, the operator has to raise something called an AFE, Authorisation For Expenditure. This will be sent out to the others involved, and if they find it as a legitimate expenditure they will sign the document and thereby be a part of the project. Bob Mitchell says; *"This is kind of how we run implementation projects as we come up with an explicit authorisation you send it to all of the member companies of OSLI, so they decide if they are in or out. So we have core budget or developing budget"*.

OSLI wants to be innovative and work towards a more sustainable future. As Brian Doucette said during my interview with him *"I think we need to show that we are trying to improve the environmental impact of oil sands development so that this product in long term is seen as positive energy alternative. Our efforts are driving us towards sustainability. That's really what we are trying to do"*. As mentioned before, there are five working groups within OSLI. These groups are working towards new and better technology, and will act as a tool to improve in environmental performance. Innovation is a key word in this search for a better oil sand industry. Bob Mitchell describes innovation as *"taking actions that changes practises and technology that matters"*. Every working group within OSLI has their own goals which are called BHAG's (Big

Hairy Audacious Goals). BHAG's are meant to be significant inspiring goals and a challenge to achieve. Wendy Brown says that BHAG's within the land stewardship group are a reduction of 50 per cent in footprint for the in situ technology. Further, the water management group BHAG's is that the water should be cleaned and neutral by year 2020. To meet these BHAG, the implementation of different projects will help OSLI achieve success. The companies will search for the best available technology and the best available practice, but it also needs to be economically achievable. As Wendy Brown addresses; *"If the oil price is going down, there might be projects that are not economical, and in the end of the day there has to be a balance. It has to be economic"*. In other words, OSLI is searching for the existing BATEA (Best Available Technology Economically Achievable) and then pushing to BATEA to a new level. Without a profitable business, the companies will not have capital to invest to address the challenges of the oil sand industry

## 5.2.3. Innovation

As mentioned above, innovation is an important topic within OSLI. These companies have worked together for just a little more than two years, and they have experienced a growth in trust, project solving and budgeting. Brian Doucette said: *"Innovation is core to OSLI, because all these companies need to adopt these changes to achieve these performance breakthroughs"*. Challenges are still to come, and they see the need the implementation of new ideas to help them overcome these challenges. Brian Doucette is talking about some technology screening entity that they want to develop within OSLI. Today, the companies get approached by new technologies providers, even backyard inventors. These well-meaning people contact the oil sands companies and claim that they have a great technology that will benefit the company. Some are good (3 or 4 out of 100), others are not well developed. Some are 'perpetual motion machines'. Other proposed technologies would have to break the laws of physics or thermodynamics to do what their inventor claims. The inventors do not only contact one company, but often several and try to sell their technology.

What often happens is that the companies do not have the time, effort and capital to try to adapt even the most promising of these new technologies to the size and scale of their operation. By jointly screening these technologies, the five companies have them reviewed once for all of them and make sure that they identify the ones that are the most promising. Within OSLI they will

collaboratively do one review of each new technology 'solution' and jointly determine which are the most promising. If there is something that seems interesting and useful, they can develop this collaboratively, share the costs and reward the provider. Further, these providers might approach several companies with the exactly same technology, and in stead of the five companies reviewing the same thing separately, they can do it together. Doing this collaboratively will save time, effort and capital. It also makes it possible for them to jointly develop the promising

Sand box is another thing OSLI will implement in their search for innovation. When developing new technology there are risks, it might not work or even worse, it can hurt the oil reservoirs. A lot of money is at risk where hundred thousands of dollar a day are at risk. The oil sand companies will not anyone to go and play with their plant. This is where the sand box comes into play; it will be an area where researchers can go and play and develop new technology. This means that the companies will not use their plants that are in production to do research. Doing this, the production plant could be hurt, if the new technology development does not function as suspected. By using the sand box in research and development means that it will be safer to try out new technology. The already operating plants will not be tampered with. Further, OSLI had a dialogue with the government about not pay royalties because there will not be any profit from this sand box, all revenue will go directly back to the sand box. The combination of technological screening and the sand box, OSLI can build a great foundation for technology development and innovation. First the companies will look at these new technology possibilities through the technological screening, and second take the technology which seems reasonable and try it out in this sand box.

Another interesting project that OSLI work on is an incentive prize. This could be an X prize, where they are talking to the X prize foundation[157] to help them. As Bob Mitchell says *"you can do a lot if you put a price to something"*. OSLI are therefore looking at what technology prizes they can put out there to get the worlds scientists attention to come up with something that will help them. This will help OSLI and the oil sand companies to stimulate innovation.

---

[157] http://www.xprize.org/about/x-prizes

### 5.2.4. Stakeholders and social license

The oil sand industry sees that it has a responsibility towards the society, economy and environmentally. Alberta's government has a lot of laws and regulations within this industry which the companies have to follow. To work for a better future, the OSLI companies' wants to some extent go beyond these laws and regulations; they want to do more than they actually are required to do. According to Wendy Brown this will help them to get a better reputation, where she also says: *"The oil sands had such a bad reputation, and even though the people that were trying to do things about it, we needed to get together collaboratively and really trying make a difference"*. OSLI has provided for a "stay in school program" to a new regional high school in a small native community area near Fort McMurray. These communities have lived here for a long time in their own way. Parents do not expect their kids to take much education, and many of these youths dropped out of school after 10<sup>th</sup> grade and got a job. By providing for computers, smart boards, wireless systems and better learning conditions for students, OSLI actually made children stay in school longer and take education. Wendy Brown also address that it is important to think in a long term perspective in the oil sands, they might stay there for hundred years and it is important to support the local communities to provide for a long time perspective.

Land stewardship is also important within OSLI, where they look at reclamation of land areas. Last year, 2009, OSLI invested 600 000 dollars in planting trees in the oil sands exploration site. This is something that is not required from legislations according Wendy Brown, the companies can leave the land area as it is and let the nature grow it back up naturally. Further they will do a follow up this year to see if the growth of the trees is as it should be.

Within the oil sand industry OSLI see their key risks as not only within regulations, science and politics, but also their stakeholders' perception. Through action and results provided by OSLI the companies involved hope that this will turn around the public perception of this industry. Brian Doucette says: *"We want to maintain our social licence to operate, and that's why we work on performance breakthroughs"*. NGO's such as Greenpeace will provide for motivation what to work on and improve. Kristjan Geekie said during my interview that there are always better ways of doing business, which the companies now try to do through OSLI.

## 5.2.5. Internal and external challenges

Statoil, Total and ConocoPhillips are all companies that have head offices outside Canada. They are international companies, and operate in many countries. According Bob Mitchell this can contribute to challenges, both with sharing of information and decision making. Regarding sharing of information within OSLI he says: *"we had a technology we were engaged about, and for one and the half first year we kept it a secret from OSLI. We had direction from the office in Huston, where they said that this is a secret; they wanted to protect the intellectual property"*. This can be seen as an internal challenge in the international companies, where the offices in Canada have to convince their head offices why it is important to share information. Even though it is the same company, people sitting in other countries and working with other projects can be seen as outsiders in relation to the Canadian office. They miss insight in what is going on "up there", and thereby have a different view of what is important. *"We need to figure out what is important"*, Bob says further.

Another challenge within this collaboration is about what competitors can and cannot do. There are certain laws and rules within competition. Clyde Fulton emphasize that within this collaboration they focus upon areas where they are non competitive, which are technology and environmental performance. All the respondents are clear about that they do not compete in these areas; there is no competition about who can plant more trees or who can reduce their emission to water and air the most. If one company does something good in these areas, the whole industry will benefit and the other way around, if one company does something bad in these areas the whole industry will suffer. This is because people, stakeholders, do not differentiate between which company does what. They hear about what goes on in the entire industry, for them it is big oil. Within OSLI, the companies are independent companies that work together in the same industry, and as Clyde Fulton also say: *"If we start talking about our profit and how we as a group of companies are going to try to maximize our profit by controlling price or controlling competition, we would find ourselves in jail"*. This means that there might be an internal challenge within OSLI, to keep all the participants within the laws and regulations. As mentioned before, companies are people, and people often like to be seen as successful. If someone see an opportunity to use OSLI to make more profit by talking about price and

maximize their profit they might want to take this risk. They are *only human*, and it has been showed before how people get blinded for their own success, like the Enron scandal.

## 5.2.6. The risks

According my interview objects, there are different risks that can occur within the consortium of OSLI. One interesting thing though was that several of my interview objects had not thought of this before, and needed a little time to think about the aspect of risk. Another interesting thing is that they all addressed almost total different risks.

One of the risks that were elaborated is that OSLI will not accomplish anything. These companies want to be a game changer, and do something good for the whole industry. *"It's not only a bandage, we are actually going in and fixing the bone"*, Kristjan Geekie said during the interview. OSLI want to carving a niche and drive performance breakthrough in the oil sand industry and they hope that OSLI will become their building blocks to allow them maintain and improve the social licence to operate. Another risk is that they will not have the human resources they need. People working in OSLI are employees in a company, not within OSLI, there is not taken for granted that everyone have the time and effort to put a lot of energy into OSLI. Brian Doucette says: *"If we don't get the human resources we won't be successful with OSLI, that's one big risk"*. The human resources are one key force to be able to actually deliver results, but the financial resources are also important. There can emerge a risk if these people, the human resources, uses time and effort to find a new technology they want to develop and the companies involved are not willing to fund it. Wendy Brown address that it is important to have continues success, they started well but they also need to maintain this. In each of the companies involved with OSLI there are many employees that are not involved in OSLI. They need to see that there is a benefit to be a part of this, and that will most likely be through success stories. For the international companies that have head offices outside the country, this might be especially important. If Total, Statoil and ConocoPhillips will continue to be a part of OSLI, they might need to show result to their CEO's outside Canada. Results and success might be a way of show the people that are not directly involved how this collaboration can benefit the industry. They might do good things together, without major result to respond to, such as doing good things for the local community. But if this does not bring any benefit back to the companies, they might not want to continue with this collaboration. As said several times before, companies are people.

Some of these people might have an intention of doing good things for the environment and local community. Kristjan Geekie addressed this during my interview where he said: "*I have never looked at the money at risk, because everything that we look at in general we see that there is a high potential for an upside, so I don't see a lot of the money being at risk, even if we participated for two years, and all we did was get the sustainable communities peace of the ground, with improving graduation rates and did two or three other initiatives. I could walk away with my head up; I think it was a great use of money. And it was not a whole lot of risk too*". For people that are not directly connected to this issue might not care that much and want to see result, such as the CEO's outside Canada. Millions of dollars are at stake, for some.

If the oil industry heats up again, there might be a risk towards the sustainable development. Will OSLI be able to focus upon this if the commodities and prices go through the roof? According to Brian Doucette this can become a chaos because this means that many want to get into the oil sand industry, and there will be will emerge a demand for people. The competition among the oil sand companies will heat up as well.

OSLI want to revolve the public perception of the oil sand industry. There is a risk associated to this perspective. If OSLI goes out and talk a lot about what they are planning to do, they will build expectations to the public. If OSLI does not achieve these expectations that are raised, they will lose their credibility and OSLI loses its value. Bob Mitchell says: "*we have to be careful. It is all about actions and results and let the results speak for themselves, not expose too much*". These expectations can also come from the government and through media with the intention of OSLI can get there faster than they actually are able to. If this happens the participants within OSLI can lose their energy and commitment to this collaboration, because they thought they would get good progress, and still they get a negative image.

One final risk that was addressed is that they will be viewed as a lead club which paints themselves as better or different from rest of the oil sand industry. OSLI want the whole industry to benefit and achieve a performance breakthrough.

## 5.3. Summary

In this chapter I have given a review from the interviews conducted in this study. This study is about the consortium of OSLI and how they act in relation to the environmental standards and

concerns in the oil sand industry. OSLI was created in 2007 with its first meeting in January 2008, which means that this is an alliance that has been operating for a little more than two years up until this date. These companies find the public perception of the oil sand industry as threat, and they want to do something to revolve this and drive the industry to a better place. OSLI found their members on behalf of their approach towards sustainability, and see themselves as likeminded companies. Trust has been an issue in this alliance, where knowledge sharing was a challenge in the start up phase. This is something that has grown to be better as a result from building personal relationship. Growth in this consortium can be illustrated from the development of the budget which has increased from 225 000 Canadian dollars in 2008 to about 10 million Canadian dollars in 2010. Capital from this alliance goes to R&D and innovation within the industry for a better performance achievement, and some of the money goes back to the local community. Challenges have been seen in this consortium, such as decision making regarding some of the participants has head offices outside Canada. Further, they need to be aware of what they can and cannot do within this cooperation. If OSLI try to maximize profit they are about to do something illegal. Success is not a matter of course; there will always be risks of failure, such as not accomplish anything. They are rather a new group, and to have everyone involved participate at the same level is not easy to control in advance. If participants in OSLI do not get involved, they might experience a lack of human resources to meet their goals. Future risks can occur if the oil industry heats up again, where companies involved might *forget* the fact of sustainable development. They might get engaged by profit where the focus upon sustainability will be weakened.

## 6. Discussion

My thesis is based upon my problem statement, where up to this point I have given a picture of my case. I started out with a description of the oil sand industry to give the reader a picture of what this industry is. In this chapter I will discuss my empirical findings enlightened in chapter five, and attach this to the theoretical assumptions specified in chapter three and the secondary information enlightened in chapter two. I will do this based on my choice of methodology explained in chapter four. The analysis will be based upon my problem statement;

*"How does the OSLI consortium act in the oil sand industry to accommodate environmental standards and concerns?"*

When elaborate my findings in this chapter, I will use my research questions to help answer my problem statement.

1) *How to find the right players?*
2) *How are the priorities established within OSLI?*
3) *How does OSLI cope with challenges and opportunities?*

I will start with a short summary of who the Oil Sand Leadership Initiative is. This is a collaboration of five companies within the oil sand industry. This is rather a new group, which had its first meeting in January 2008. Companies involved are Suncor, Nexen, Statoil, ConocoPhillips and Total, where the three last companies are international corporations with offices around the world. I have conducted one interview with all the participating companies involved, where my interview objects have good knowledge and experience within this industry.

## 6.1. Relationship

My first research question deals with how the companies identify themselves and how to relate to other partners within the oil sand industry. This is a crucial step in the starting face of OSLI, because if they are about to achieve success, they need players that can function well together. Did the companies creating OSLI think about who they wanted as their allies? This leads me to the first research question;

1) *How to find the right players?*

The oil sand business is a large industry with many players within it, all from the companies that operate and extract bitumen to different stakeholders as mentioned in chapter 2.3.1. When OSLI was looking for their players, there could be many to "take from". Before the decision is made regarding whom to make an alliance with, there is according to Duoma et al. (2000) a need to know what the roots of this collaboration are or should be. In other words, there is a need for the partners to *fit* together.

### 6.1.1. The aim of OSLI

Bob Mitchell who is one of the main initiative takers for the creation of OSLI, stated during my interview: *"we got talking about the fact that the oil sand industry was under attack. What can we do to help the industry getting along and help them get improved performance (…) we cannot expect that our industry associations are going to be our leader; we need to get out ahead the industry association and prove that things are economically and technically achievable before the associations will support them"*. This statement gives a good picture of what they want with this alliance. Further, Brian Doucette elaborated in my interview what operations they want OSLI to strive for: *"In order to ensure that the industry is doing something for a better place, that's why OSLI is created, and then the six companies were selected based on their regards to their environment and sustainability approach, we were trying to get companies that we believed could work together and do this"*. OSLI want the future to be a *better place*; this can be linked to the term of sustainability and the definition from the Brundtland commission of 1987, enlightened in chapter 3.2. It is important to concentrate development within economy, society and environment to meet a sustainable approach. Regarding Savitz and Webber (2006), implementing sustainability can appear as expenditure for companies where there will emerge a need for more capital towards the stakeholders. Therefore it is important that all the participants involved agree upon what they want to accomplish with OSLI. At this point issues can emerge if some of the companies do not see the benefit of transferring capital from shareholders towards the stakeholders.

The aim of OSLI comes clear from my interviews where all the participants involved seem to have the same understanding, where they see the aim as *achievement of world class environmental, social and economic performance in developing the oil sands resource.* Regarding Bergquist et al. (1995) the clarification of values, purpose and goals are important when composing an alliance. During my interviews, the participants gave me the impression that this is something the consortium has considered while creating this alliance.

The aim of OSLI is settled, and I will further look at how the consortium chose their allies.

## 6.1.2. Partner selection

As mentioned in chapter two, the oil sand industry provides for environmental footprint, both to water and air. This is something that is highly discussed among *people*, both in Canada and in other countries which have knowledge and opinions within this industry. The government of Canada and the province of Alberta, where the oil sand is located are highly engaged in the development of the bitumen extraction. As mentioned in chapter 2.3, they provide for laws and regulations, and further try to motivate the companies to do this in a more sustainable way.

In the selection of allies, OSLI needed to consider who they wanted to have on their team, and know their motivation and goal within this collaboration. OSLI have the government as observers and Bob Mitchell addressed why during my interview with him, where he stated that they could lose their credibility if they chose to have the government as one of their partner. The oil sand industry is strongly regulated by the government, and therefore OSLI needs to be an arm length from them. This is because *people* might suspect that OSLI companies would receive special treatment from the government if they were one of their partners.

I addressed in chapter three the importance of common values and goals within an alliance, where Douma et al. (2000) argue that it is crucial to balance interest and background of partners. All the members I interviewed in OSLI were clear about their interest of this consortium; they all have an interest of achieving technological breakthrough in the oil sand industry and revolve the public perception of this. Kristjan Geekie addressed this during my interview: *"I think this one is just the power of five. Five like minded companies that say we can do better"*. This statement illustrates that they see themselves as companies with a same vision, which will contribute to an efficient and effective alignment between the partners. OSLI also searches for a common benefit for the whole industry. The oil sand industry is perceived as one whole industry where the public does not differentiate between the companies involved. This means that if something bad happens at one plant or one company does something appalling; this will affect the whole industry. And vice versa if something superior is done, the whole industry will receive a positive feedback. Bergquist et al. (1995) state that partnerships are developed to work for a common good and mutual benefits for participants involved. OSLI companies want a common good, not only for the companies involved but for the whole industry. Then one could raise the question why not all the companies that extract bitumen in Alberta are invited to this alliance. The

expression "to many cooks more mess" can be used to explain why OSLI does not want many players. They want to be able to make decisions fast which Clyde Fulton addressed: *"…that means strengthening the group of all of the companies was exactly what they were trying to do. I don't think it is about strengthening 5 companies at the expense of other companies. It is just that you only need so many people to move things ahead, and the more that are involved the harder it gets to get things moving. I think the feeling was that 5-6 companies were optimal in an experimental type of exercise that OSLI was. It was enough to create critical mass, bringing enough people and money to the problem so that we could make a difference; but still small enough that we could move things along. We did not need as formal governance structure; five organizations can make decisions quite a bit faster than 10 could. The goal is certainly to strengthen those companies, but the true goal is to strengthen the whole industry. All companies will ultimately benefit from the research we do and the advances we make"*. Based upon these assumptions, OSLI has chosen to be a small alliance where they all have the same vision for the future. The consortium of OSLI has found partners where they believe results can be achieved where all the partners involved will benefit. This can be linked to Duoma et al. (2000) where it is stated that it is important to create a foundation for win-win situation within an alliance.

The companies involved have different background, where Statoil, Total and ConocoPhillips have head offices outside Canada and Suncor and Nexen have head office in Canada. As mentioned in chapter 3.4.1, Bierly and Gallagher (2007) address that it can be a challenge to create an alliance where there will always be a risk of failure. OSLI is combined by companies within the same business area, but still they are different companies. According to Clyde Fulton, Statoil will only have in-situ plants within this industry and this means that they will not add value in the mining technology. Since it is crucial to create a win-win situation, it is important that all these companies can contribute to this consortium. The fact that the committing companies have different backgrounds, experiences and some different operations can construct a foundation for different technology, knowledge and capabilities that can be combined for further development. As mentioned in chapter 3.1.5, availability of knowledge is key when developing products. To have a consortium of companies with different backgrounds, such as the OSLI companies have, can be a step of bringing more people together and create a platform for broader knowledge, which can contribute to performance achievement. This can be linked to

Hansen (2009) where he addresses that to achieve *better* innovation there is a need to gather people from different areas.

From the aspects above, one can argue that OSLI has made a strategic choice of partners where they have considered who not- and who to invite. The participation of the partners selected will be addressed furthermore.

## 6.1.3. Participation

The fact that these partners produce the same end product means that they can experience competition between the companies involved. As mentioned in chapter 3.1.8, when competing companies cooperate, it is called coopetition. The goal within coopetition is that the partners involved in an alliance should benefit in an equal level. The entity OSLI has worked together for about two years, and the involvement has been various, where regarding my respondents, the contribution to this entity is emerging. In the beginning, several of the participating companies did not know how much energy they should put into OSLI. Regarding Brian Doucette the engagement was not on an equal level in the start up phase, but this is something he has seen grown to the better throughout 2009. He states: *"over all, as we went through 2009 and matured as a collaboration consortium, everybody started to see the value of projects and all the companies are putting their human resources which are required to make it happen"*. This can be linked to Duoma et al. (2000) addressed in chapter 3.1.4, where it is stated that to achieve success within an alliance, there is a need for effective and efficient alignment between partners involved. Further, Clyde Fulton stated during my interview: *"I think we are contributing where we have the strengths to contribute, in some areas we give more and in some we take more"*. This statement can imply that there are no participants attending as "free passengers".

The fact that these companies are equally engaged can mean that they see a possible benefit from this alliance, and therefore put energy into this consortium. Addressed in chapter 3.1.8, regarding Luo (2007), cooperation will be an effective method to gain in quickly improvement where risks will be shared.

### 6.1.4. Summary

I will sum up shortly how OSLI went forward in the finding of their *right* partners. Even though this alliance is working well, it is not said that this is or was the best solution. When that is said, if the alliance is achieving their goals, one can say that this has been a good selection of partners. The OSLI allies are selected on background of;

- Same views and values for the participants involved, regarding their sustainability approach
- Same goal; achievement of world class environmental, social and economical performance in development of the oil sands recourse
- Government seen as a third party which need to be an arm length from them
- Small alliance with partners within the same field, but with different background

## *6.2. Priorities in OSLI*

OSLI wants to achieve performance breakthroughs in the oil sand industry. In chapter two, I addressed the two methods of extracting bitumen today. Both of these methods use a lot of water and leave environmental footprints. Further, I also mentioned that it is estimated to be produced 1.7 to 2.5 trillion barrels of oil sand in Alberta. There is a high value in this oil sand, which can give revenue to the country, province of Alberta and the companies. When saying the country and province, this will again be transferred to the society in form of better health care, better roads, education and so on. What does the consortium of OSLI want, or what do they actually do? Is it all about profits? This leads to my second research question:

*2) How are the priorities established within OSLI?*

Bergquist et al. (1995) states that in today's global market everything happens fast; new and better technology develops constantly. It can be a lot to follow for one company alone, and according to Hansen (2009) companies can achieve innovation if they collaborate with other organizations with knowledge within the same area. This will stimulate knowledge sharing and better performance achievement.

## 6.2.1. Learning

Huxham and Vangen (2005) address that learning is often a common base for collaboration, which can give all participants benefit. Learning is important within the consortium of OSLI, and was according to several of my interview objects one of the intentions when creating OSLI. An example of how they did this is benchmarking. Environmental performance is one of the important areas within this industry, and OSLI also sees this as important. To achieve better performance within this area, they conducted a benchmarking of their environmental performance. The result of this gave an implication of who did better in certain areas and vice versa. Partners involved achieved an opportunity to learn from their new colleagues. Companies that received a high benchmark would be willing to share how they did this, which means that the other participating companies could learn from their co-working companies. By implementing these beneficial operations or management systems which received a high benchmark can lead to better performance in the future. This will also contribute to more knowledge about the participants in the alliance. If each company adopts practices that received a higher benchmark, the culture in each company will also be more alike and therefore they may think alike. This is also something that is important in collaboration. Further, it can contribute to a better future regarding the issues due to water and air described in chapter two. The companies will also give a message to their stakeholders that they are willing to reach out for better solutions due to environmental performance, which can be a step towards revolving the negative picture towards the oil sand industry. I will address this further below.

OSLI has five working groups; Land stewardship, water management, sustainable communities, carbon management/energy efficiency and technological breakthrough, as mentioned in chapter 2.6. These groups can function as OSLI's core areas, where they want to achieve performance improvement and breakthrough, which can also be seen as innovation. As described in chapter two, many of these areas are "problem areas". By problem areas I mean areas that have been discussed a lot in the public, negatively. As mentioned in chapter 2.4, the oil sand industry uses five percent of the water in Athabasca River which is too high regarding the standards of the Water Management Framework. Tailing ponds are also seen as a problem in this industry, where water impossible to clean is stored. The water working group is working to reclaim these tailing ponds and Clyde Fulton addressed this by saying: "*the technology is now emerging and we can*

*reclaim those tailing ponds"*. If they manage to reclaim these tailing ponds, the issue of too much water-withdraw can also be solved. This is because if the man made tailing ponds will be reclaimed, the industry will be left with either large ponds with water, or big holes in the ground. During the spring and melting period, the river accounts for a higher volume of water. By reclaiming these tailing ponds, the industry can now receive a possibility to store water during these high flows, to use during winter time and low flows. Thereby OSLI, or the industry of oil sand, can receive an opportunity to meet the standards of the Water Management Framework of 1.3 percent water withdraw in low flow periods.

OSLI further works towards less water usage in their operations, even non-water usage in a long term perspective according Brian Doucette: *"We focus in three things, short term – what can we do quickly together, and that's kind of sharing best practises and comparing operation and saying where are the opportunities. Medium terms - which are to maybe develop some technologies together that are available but we have not tested. Then we have long term goals - which are kind of how can we change the industry. This is a technology breakthrough change, how do we change bitumen extraction without water, for example. We don't know how, but we engage together to develop it"*. This is done by all the five companies together, where people with knowledge within water work together. Regarding Field and Olewiler (2005) as disclosed in chapter 3.3, there is an aim to find technology improvement regarding less pollution if a company wants to go towards sustainability. Due to the content above, OSLI's work towards innovation can be linked to this theory of Field and Olewiler (2005), where they are working on technology development which will have less impact on the environment.

The companies within OSLI will not only learn from each other, but they will also learn *with each other*. As described in the empirical findings in chapter five, OSLI will create a *sand box* for development of new technology. This means that they want to learn as they go, and use shared technology to achieve this. Through their working groups, they will put their heads together and do research and development for performance achievement. Shared knowledge and learning will be fundamental in this collaboration towards innovation. This can be linked to Chesbrough et al. (2006), which state that if you look for innovation as a company, you are dependent on other companies. Knowledge seldom comes from one person alone, and by involve

with other people that has knowledge in the same area there is a chance to achieve better performance.

## 6.2.2. Finances

As declared in chapter 2.2, the oil companies have to pay royalties to the government. The government *wants* this industry, but they also want it to be better and go through with research and development for a better future. OSLI has a dialogue with the provincial government of Alberta where they want to be excluded from royalties on activities they achieve through the sand box. This can be seen as a project with vision of a long term perspective, where OSLI wants the possible revenues achieved within this project to be transferred directly back to the sand box for further research and development. If OSLI get this type of contract with the government, they will have a motivation for research and development regarding a better future. This can be linked to the term of sustainability addressed in chapter three. Regarding Savitz and Webber (2006), it is important to think in a long term perspective due to future generations and the survival of the company. Brian Doucette also addressed this in his statement in the previous chapter, where he stated that OSLI has long term goals.

Extraction of the unconventional oil sand is a rather expensive way of producing oil. In table one, the costs due to these operations are illustrated. Wendy Brown addressed that at in the end of the day, everything has to be economically achievable. The oil sand industry is very stringent, there are a lot of rules and regulations about what they can and cannot do. Companies can choose to do better than they have to do, but doing so, they can send a message out to the regulatory that they are not stringent enough. Kristjan Geekie addressed this during my interview where he said that to take the technology development to a higher level than required regarding the environmental footprint can be extremely expensive. This is because the regulatory can *come after* and set even more stringent regulations. Geekie further says: *"When you already know that you are one of the heaviest regulated places in the world, it does not make sense to do more. We said that we can do more, because we want to stretch those boundaries. The real problem will be that the regulators will come and say – maybe we are not stringent enough, lets make it even harder"*. The anthropogenic processes are as mentioned in chapter 3.3, one of the main resources of the release of GHG emission in our planet. Further, Field and Olewiler (2005) say that these can be reduced if companies are willing to perform R&D to reach out for less polluting

technology. Incentives to do so can come from enforcement, but when this is not present by laws and regulations the companies are left on their own to make this decision. It can therefore be a discussion about the moral considerations. One can argue that OSLI should perform R&D to find better technology and thereby reduce their anthropogenic emissions, regardless the risk of more stringent future laws and regulation settlement.

If the companies in fact *can* do better than they actually are doing, is that a good enough approach to a better industry? It is hard to know what the future will bring, and if the oil prices go down, a pressure to get the production costs down will emerge. To be a sustainable business, there is also a need to have a sustainable economy, which means that a company should think in a long term perspective. Companies within the oil sand business can therefore face a problem if they decide to do better than they actually are required to do, and thereby receive harder regulations. The result of this can be that the oil sand will no longer be economically achievable to extract. Therefore, OSLI reaches out for BATEA (Best Available Technology Economically Achievable). Wendy Brown stated: *"I think the message is that we can never be complacent (…) if the oil price is going down, there might be projects that are not economically – in the end of the day there has to be a balance"*. BATEA is something that OSLI reaches out for through their working groups. The five working groups reach out for performance breakthrough and there is no strict rules regarding what to achieve and what to spend on projects. As explained in previous chapters, operators of a project can rise AFE (authorization for expenditure), which means that if a project leader finds a project he wants to follow through, he needs to send this AFE out to each of the companies involved. The ones that want to be a part of the project will sign the document. To reach out for BATEA can function as a tool to meet sustainable demands of the economical aspect for a future perspective.

### 6.2.3. Social capital

The oil sands activities also touch upon the society, both the local communities and the regional, national and international societies. Huxam and Vangen (2005) address the *moral imperative*, where ethical issues can be too much to handle for one player alone. OSLI takes their stakeholders into consideration within their collaboration. Although they are a rather new group, they have already achieved success within the working group *sustainable communities*, where they have provided for a "stay in school program". This program made it possible for the youth

living in Fort McMurray to finish high school closer to home. Costs due to this program are shared between the participants in OSLI, and made the project achievable. Further, by this program, OSLI gives something back to the community. Savitz and Webber (2006) address the importance of *a common good*, where the profits of business should be blended seamlessly with the stakeholders involved within a project, or industry procedure. Further, regarding the sweet spot of sustainability, corporations should try to give something back to the community in an everyday basis. Trough this "stay in school program" OSLI provided for money contribution at one point, but this contribution can at the same time be seen as a contribution spread over a long time period. This is because the school will not only be there for a year or so, it will be function for a long time. Profit of the oil sand activity can therefore be seen as shared for the common good among stakeholders.

OSLI also invested 600 000 Canadian dollars in planting trees in the oil sand exploration site. This is something they are not required to do by laws and regulations. Further, OSLI will provide for follow up activities, where they ensure that the trees are growing as they should. Regarding the Brundtland report from 1987, activities today should not affect the future generation ability to meet their needs. The tree-planting trough OSLI's land stewardship group can be seen as a step towards sustainability, where they help the nature back in its shape which will contribute to a faster reclamation of the land. This means that the future generation will receive a land area in the same shape as today's generation.

## 6.2.4. Summary

As a short summary of this chapter, I will enlighten the most important priorities within OSLI and how they found these priorities as important.

- Learning from each other through benchmarking – to achieve better performance and send a message out to stakeholders that they are willing to change
- Knowledge sharing to achieve innovation and performance breakthrough. This is partly done through five working groups they have established
- Searching for the Best Available Technology Economically Achievable (BATEA)
- Moral imperative, OSLI wants to give something back to the community

### 6.3. Challenges and opportunities within OSLI

As mentioned in the very beginning, chapter 1, the oil sands in Alberta are a valuable resource, where there is estimated an amount of 179 barrels of crude oil. The five companies within OSLI are collaborating for a better and possibly more effective performance. They are extracting the same scarce resource, which can lead to a competition between the partners involved. As described in chapter 3, when competitors collaborate, the term *coopetition* are used. Within coopetition several challenges and opportunities can mature, such as how to deal with trust. This leads to my final research question:

> 3) *How does OSLI cope with challenges and opportunities?*

Companies that sell the same product are seen as competitors. The companies within OSLI are all reaching out for the same resource; extraction of bitumen. Regarding Luo (2007) coopetition should give mutual benefit to the partners involved. Partners within an alliance that find themselves in coopetition are still rivals, but they are searching for value added within their operations. Hansen (2009) addresses that collaboration does in most cases not happen naturally.

### 6.3.1. Coopetition

The fact that the companies are collaborating and still are competitors can be a challenge. According to Luo (2007) coopetition is encouraged of the economical and strategic factors, where knowledge sharing is a common form for coopetition. This is an opportunity for OSLI to reach out for innovation because of resource access such as resources in form of capital and humans. Though, there will still be challenges due to how much they should trust each other, which I will address below. Within today's market, innovative technology gets *out there* rather fast, and this question about intellectual property that scientists often want to protect will often be copied by rivals in short time anyway. To cooperate in some areas will encourage the ability to change with a higher speed, and Luo (2007) argues that cooperation will be an effective method to gain improvement faster. Therefore, one can argue that OSLI use this opportunity of coopetition to achieve better technology performance.

### 6.3.2. Trust

Cooperation is not always as easy as sought, where the risk of trust comes into play. Bob Mitchell addressed this in my interview with him where he stated that in a relationship there will always be some things that make the trust grow or make partners question the trust. He further says: *"I don't know if we ever get to the point where we trust each other completely. Only way that will happen is if the ones buy the other. I think we will have breakthroughs though, and maybe some drawbacks"*.

Gulati (1995) argues that it is important that partners protect themselves from allies' opportunism and that this can be done by formal contracts. OSLI has created a ten pages charter, which is the formal rules for the OSLI members where OSLI's believes, mandate and objectives are explained. To be a part of OSLI, the chief executive officers of all the companies involved need to sign this charter. This will give the partners a certain security of same values and views within the collaboration.

The budget of OSLI has increased from 225 000 Canadian dollars in 2008 to 10 million dollars in 2010. This can illustrate that the companies are starting to put their confidence within this alliance. Further, they are opening up for more allies to come along and join them. If they would merge with several partners, these new partners will have this same charter to sign as the rest of the group. This can be an opportunity for the alliance; by merging with other companies within the oil sand business they will obtain more resources both in form of capital and human resources.

### 6.3.3. Risks due to knowledge sharing

Regarding Clyde Fulton, the companies involved in OSLI are competitors to some extent. He says the following: *"clearly we are competitors; I mean we compete in the financial markets for capital to invest in our companies. We compete in the sense trying to get our cost per barrel down, so our profit is as high as anyone else's, we compete in resources and the opportunity to buy facilities. There is absolute no question that we are very much competitors"*. This can lead to the willingness to share information. Kristjan Geekie addressed that they all like to share information only up to one point, because of the fact that some information can be a competitive advantage. As mentioned in chapter three, Hansen (2009) enlightens this problem, where he

states that allies might use shared information or knowledge for their own benefit. In other words, allies can turn around and "back stab" their partners, and use shared information as a competitive advantage. Many of the partners involved in OSLI like to think that they know more than others, but Geekie also addresses that this is probably not true. Therefore, this is something they work with in OSLI; to strengthen the trust and transparency within the alliance. They do this by working on their personal relationship, to make them stronger and closer. Clyde Fulton addresses this where he says: *"if I have a problem I can pick up the phone and ask how they solved these problems. And they are prepared to share this with me. We benefit from this because we don't have to make the same mistakes, we can take a benefit from a mistake, and start there. We are the newest operator of that group, so the relationships are important"*. This has lead to the fact that the participants today are more open to their allies, and they are not afraid to show their vulnerability. From the model used in chapter 3.1.5, I would say that OSLI is within the *understanding* phase. Regarding Child (2001) this phase appears when partners are starting to know each other. As Clyde Fulton addressed in the statement above, he relies on his new colleagues and is open to make his vulnerability visible for common allies. It is thus not said that trust is not an issue or challenge, which I will come back to later in this chapter.
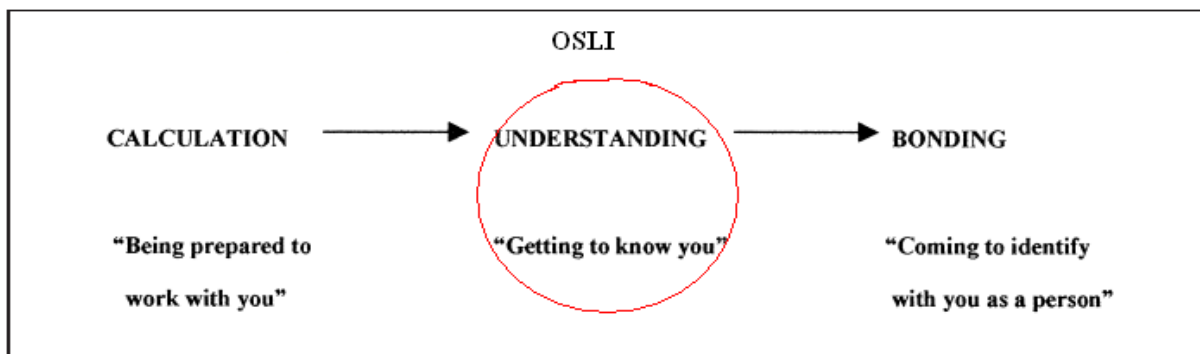


**Figure 11 Phases in the Evolution of Trust in OSLI**

Another challenge, which also can be an opportunity for OSLI, is the fact that several of the companies are international corporations with head offices outside Canada. This regards Statoil, Total and ConocoPhillips. First, a challenge due to sharing information can emerge. The offices outside Canada might not see the benefit of sharing certain information and decline this to happen. This can be seen as an internal challenge for the international companies, but it might be an external challenge for the consortium of OSLI. Opportunities due to this multinational

alliance can be that the companies involved have information and knowledge developed in some of the offices abroad that can be profitable for the OSLI companies. An example of this is carbon capturing storage. Total has offices in France and is working at just this. This may be shared in the future with the other companies involved, and can thereby be seen as a huge opportunity if Total France succeeds.

### 6.3.4. Summary

As a short summary of this chapter, I will describe how OSLI copes with the core challenges and opportunities which emerged from my empirical findings. I have attached this to theory to make it explicable for the reader.

- Collaboration to grip the opportunity to a greater innovation
- Strengthen trust trough a charter with beliefs, values and goals that have to be signed by all the companies' CEOs
- Opens up for more companies to commit to OSLI, which can be an opportunity for further knowledge sharing and achieve higher value added
- Work on personal relationship to cope with the issue of trust

### *6.4. Summary discussions*

In this chapter I have answered the three research questions addressed in the beginning of this chapter. These three questions would help me approach my problem statement which is core in this research. It comes clear through my study that OSLI wants to achieve better technology for the future regarding the environment, which supports Hansen's (2009) framework about collaboration; to achieve innovation it is important to collaborate with organizations with knowledge within same area. Further, OSLI wants to go towards sustainability, where they take economy, society and the environment into consideration when doing business. This can be linked to Savitz and Webber (2006), where they state that it is important for a company to think in a long term perspective and be able to meet the needs of a future generation.

In chapter 2.4.1, I gave a review of the environmental concerns that the government of Alberta addressed in their report *Responsible Actions; A Plan for Alberta's Oil Sands.* To sum up the work of OSLI towards the environmental concerns, I will use these points from the government

where they address different goals for the oil sands future. I will further make a table where I put the goals and objectives the government has settled for the environmental development of the oil sands in one of the columns (from 1.1 to 1.5) and further benchmark this against my findings of OSLI's work.

| Strategy one from *Responsible Actions; a plan for Alberta's Oil Sands*. | OSLI; their work |
|---|---|
| **1.1**<br><br><br>Through implementation of the Land-use Framework, effectively manage the cumulative effects of oil sands development on the environment to protect air, land, water, biodiversity and human health | + Search for BATEA<br>+ Less water usage in a long term perspective<br>+ Developed working groups to find new technology<br>− Could have more regarding environmental footprint; are careful due to more strict regulations in the future<br>− Protect human health |
| **1.2**<br><br>Enhance reclamation and increase enforcement to minimize Crown liability and protect environmental health | + Reclaiming tailing ponds<br>+ Reclaiming land area (planting trees) |
| **1.3**<br><br>Increase conservation and protect areas to maintain biodiversity in the oil sands regions | − Protect species at risk |
| **1.4**<br><br>Meet or exceed Alberta's GHG reduction objectives | + Do R&D on CCS technology |
| **1.5**<br><br>Strengthen organizations to collaboratively manage and monitor environmental performance | + Work collaboratively for performance breakthrough<br>± Government and multi-stakeholder groups are not participating |

**Table 5 Benchmarking OSLI environmental standard and concerns**

From the table above it is illustrated that OSLI is liable towards the environmental standards and concerns to some extent, but they could also do better in some areas. BATEA will enable OSLI to meet the environmental standards and concerns, in order to reach out for new technology, which will contribute to better performance regarding the environment. This will also be a part of enabling OSLI to survive in a long time perspective; they will not go bankrupt thinking about the economical aspect when developing new technology, which can be linked to Savitz and Webber (2006) methodology, as mentioned above. During my interviews, the respondents do not talk much about protection of the human health and protecting species at risk. They are supporting the local community by providing for school material and motivating children to continue their schooling. Further, they plant trees in areas where there has been mining operations. These are both actions that are not part of the legislation from the government. It can be discussed if these actions are part of protecting the human health and species at risk, but to some extent, OSLI could do more due to this. Further, to meet the environmental standards from the government, OSLI does a lot of R&D regarding water treatment. All this is done by working collaboratively, which is one of the motives from the government of Alberta. This can be linked to the framework of Hansen (2009), where he states that to achieve better innovation there is a need to gather people from different areas. It can though be discussed if OSLI should include the government and multi-stakeholder groups in their work. This can be seen as positive or negative, where they can manage decision making faster while not being too many partners involved. This is something Hansen (2009) addresses, where he states that better innovation happens because people from different areas come together and creates new ideas and goes on developing exciting products. Therefore, one can argue that it could be profitable for OSLI's alliance to include some of these other stakeholders, because of different views addressed and thereby create even better ideas.

## 7. Conclusion

This research has explored the consortium of OSLI, who they are and what they want to accomplish by this alliance. After discussing my empirical findings in the previous chapter, I will now address the main conclusions of this research which will be answering my problem statement;

*"How does the OSLI consortium act in the oil sand industry to accommodate environmental standards and concerns?"*

The environmental standards have been settled from the government of Alberta, which has been addressed in table two. Through the empirical findings I can now draw a conclusion of how OSLI acts in the oil sand industry to accommodate environmental standards and concerns. OSLI searches for new- or improvement in technology, and call this technological breakthroughs, which supports Hansen's (2009) framework of reaching out for innovation through collaboration. The aim is to find technology that will go towards a more sustainable path, where economy, environment and the society is considered in this development, which supports the framework of Savitz and Webber (2006), where a company should be able to meet the needs of future generations. Further, the stakeholders are important for OSLI, where something they also want to achieve is to *revolve the public perception* of the oil sand industry. Stakeholders lead OSLI into different R&D fields; Wendy Brown addressed this by saying *"they keep us on our toes"*. This means that areas stakeholders find important to improve, is areas OSLI want to work for performance breakthrough. Said in other words; the stakeholders in the oil sand industry are partly decision makers of what OSLI will improve by R&D.

I find it suitable to use the model from chapter three, *the sustainable sweet spot*, from Savitz and Webber (2006, see figure ten), to illustrate my conclusion. The model takes the business interest as one criterion, and the stakeholder interest as another criterion. The aim is here to find a solution that will be a common good for all parts involved. Outcome from this *blend* of business and stakeholders interests will be the sustainable sweet spot, and give directions for what to focus upon. OSLI has a business interest of performance breakthrough, where they want to achieve new or better technology, but this also has to be economically achievable. Therefore, OSLI searches for BATEA, which includes the best technology on the market that is economically achievable. This is clearly an aim for OSLI. Since OSLI sees their stakeholders as important, they will guide OSLI's focus within R&D, which to a large extent is a reduction of the environmental footprint in the oil sand industry. To accommodate for the stakeholders interests, OSLI does several activities within their alliance, which is illustrated in the model below. Their goal is to develop strategies to change their operations towards a more sustainable future, and revolve the public perception in this industry.
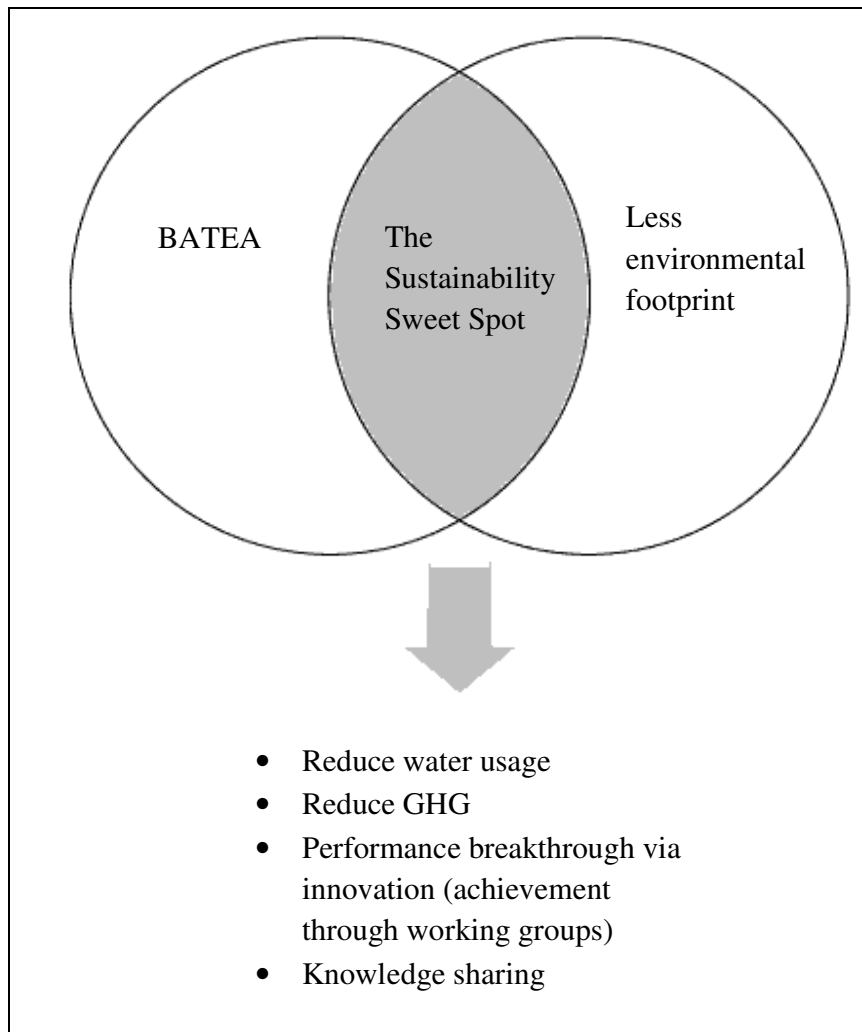
**Figure 12 The sustainable sweet spot of OSLI**

In the model above, one can see that the consortium of OSLI wants to reduce water usage, where they focus upon short-, medium- and long term perspective. Less water usage, reclamation of tailing ponds – which also will enable them to withdraw less water from the river in the future and in a long term perspective – extract bitumen without water. Technology for reduction of GHG is something OSLI wants to achieve, but at the same time they are afraid that regulations will settle more strict rules if they accomplish this. Therefore it can be said that they could do better when it comes to the reduction of GHG. Their working groups function as an essential part when developing new technology and reach out for innovation within this industry (see figure six). Companies involved have divided these working groups among them, and this becomes a way of separating the different aspects they want to achieve performance breakthrough in and

thereby construct management control. Collaboration is the *DNA of OSLI's success,* where they see the benefit of knowledge sharing.

Through the discussion above and the empirical findings, we can see that Hansen's (2009) framework for collaboration reflects OSLI's work through knowledge sharing for achievement of innovation to accommodate for the environmental standards and concerns in the oil sand industry. Further, the framework of Savitz and Webber (2006) also reflects OSLI's work, where their stakeholders are an essential part of addressing where to work for improvement.

## 8. Contributions, limitations and further research

### 8.1. Contributions

This research is about collaboration within the oil sands industry, and how to meet the environmental standards and concerns. This is a quite limited study and therefore it has a high level of originality. Results from this study shows that OSLI can reach out for better technology regarding the environmental concerns, through collaboration. This can contribute to other organizations within the oil sands, or other organizations that want to enter this industry. This study can function as a report where some important elements when doing business in this industry are elaborated. I further hope this research will encourage to more research within this same field in the future.

### 8.2. Limitations

My research is a single case study which is specified to the area of oil sands, within the consortium of OSLI. I have chosen to limit my study to this specific area because of the relevance of in depth knowledge of my phenomenon. If I was about to consider several aspects, or take further organizations into account when doing this research, it would most likely result in a lower level of details. This study is limited to the field of how OSLI meet the environmental standards and concerns within the oil sand industry, but I will argue that the conclusions I made for this qualitative research can be transferred as a framework for other projects.

## 8.3. *Further research*

There is several ideas that come to mind when talk about further research. Since OSLI is a rather new group, it could be interesting to do a similar approach as this research after this alliance has functioned over some longer time. In my research, I have chosen to limit my research to the environmental standards and concerns within OSLI, and I have chosen to talk to the people within this alliance. It could be interesting to look at how other *people* or *groups* think about this collaboration. It has been addressed through my interviews that OSLI have received perspectives from other companies that are not part of this alliance, such as *"what is OSLI, some sort of secret private group that we are not part of"*.

The oil sand industry is a comprehensive and large industry with many challenges and concerns. Therefore it could be appropriate to conduct a larger study with a wider focus upon the environmental standards and concerns within this industry. In my study, there are only the companies within OSLI that are in focus. It could be interesting to look at other groups or entities that touch upon the oil sand industry, and thereby embrace the views from other holds. Many of the stakeholder groups addressed in chapter 2.3.1 are collaborating with different organizations, which mean that another study with this focus in a larger scale can be followed through to elaborate findings from this research.

# 9. References:

Bergquist, W, Betwee, J and Muel, D. (1995) *Building Strategic Relationships: How to Extend Your Organizations's Reach Through Partnerships, Alliances, and Joint Ventures*, Jossey-Bass Inc., San Francisco

Casseres, B., G., (2006) *How alliances reshape competition,* SAGE publications, Chapter 3 (Handbook of Strategic Alliances)

Chesbrough, H., Vanhaverbeke, W. and West, J. (2006) *Open Innovation: Researching a New Paradigm*, Oxford University Press Inc., New York, page 206

Child, J. (2001) *Trust – The Fundamental Bond in Global Collaboration,* Organizational Dynamics, Vol. 29, No. 4, pp. 274-288

Cullen, J., B., Johnson, J., L., and Sakano, T., (2000) *Success Through Commitment and Trust: The Soft Side of Strategic Alliance Management*, Vol. 35, Nr. 3, pp. 223-240

Das, S., (2009) *Green Oil.* Canadian Cataloguing in Publication Data, Canada

Field, B., and Olewiler, N., (2005) *Environmental Economics,* Second edition, McGraw-Hill Ryerson, Canada

Grant, R., M., and Fuller, C., B., (2004) *A knowledge Accessing Theory of Strategic Alliances,* Journal of Management Studies, Vol. 41, Nr. 1, pp. 61-84

Gulati, R., (1995) *Does Familiarity Breed Trust? The Implication of Repeated Ties for Contractual Choice in Alliances*, The Academy of Management Journal, Vol. 38, Nr. 1, pp. 85-112

Douma, M., U., Bilderbeek, J., Ildenburg P., J., and Looise J., K. (2000) *Strategic Alliances: Managing the Dynamics of Fit*, Long Range Planning, Vol. 33, Nr. 4, pp. 579-598

Hansen, M. T. (2009) *Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results*, United States of America page 15

Hellevik, O. (1999) *Forskningmetode I sosiologi og statsvitenskap,* Universitetsforlaget, Oslo.

Huxham, C. and Vangen, S. (2005) *Managing to Collaborate; The theory and practice of collaborative advantage*, Routledge, Oxon

Johannesen A., Kristofferesen L. and Tufte P. A. (2004) *Forskningsmetode for økonomiske og administrative fag*, Abstrakt forlag

Johannessen, A., Tufte, P., A., and Kristoffersen, L., (2006) *"Introduksjon til samfunnsvitenskapelige metode"*, Abstrakt forlag, Oslo

Kogut, B. and Zander, U. (1992) *Knowledge of the firm, Combinative Capabilities, and the Replication of Technology*, Organization Science, vol. 3 No. 3, pp. 383-397

Luo, Y., (2007) *A Coopetition perspective of global competition,* Journal of World Business, Vol. 42 issue 2, pp. 129-144

Marczyk, G., R., DeMatteo, D., and Festinger, D. (2005) *Essentials of Research Design and Methodology*, John Wiley & Sons, Inc., New Jersey

Mehmetoglu, M., (2004). *Kvalitativ Metode for Merkantile Fag,* Fagbokforlaget, Bergen

Newell, S. Robertson, M., Scarbrough, H. and Swan, J. (2009) *Managing Knowledge Work And Innovation,* second edition, Palgrave Macmillan, Hampshire, page 3

Nikiforuk, A (2008) *Tar Sands, Dirty Oil and the Future of a Continent.* Greystone Books: Vancouver

Punch, K., (1998) *Introduction to social research: Quantitative and qualitative approaches.* SAGE publications Inc., London

Rastogi, P., N. (2009) *Management of Technology and Innovation: Competing Through Technological Excellence,* Second edition, Response Books, New Delhi

Saunders, M., Lewis, P., and Thornhill, A. (2007) *Research Methods for Business Students*, fourth edition, Prentice Hall, Essex

Savitz, A., W., and Webber, K., (2006) *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economics, Social and Environmental Success and How You Can Too*, John Wiley & Sons, Inc., San Francisco

Smith, M., E., Thorpe, R., and Lowe, A., (2002) *Management Research: An Introduction*, second edition, SAGE Publications, London, page 28

Smith, M., E., Thorpe, R., and Jackson, P., R., (2008) *Management Research*, third edition, SAGE publications Ltd, page 331

Silverman, D., and Marvasti, A., (2008) *Doing Qualitative Research: A Comprehensive guide*, SAGE publications, Inc., California

The World Commission on Environment and Development (1987), *OUR COMMON FUTURE*, Clays Ltd., Suffolk

Todeva, E., and Knoke, D. (2005) *Strategic alliances and models of collaboration*, Management Decision, Vol. 43 Nr. 1, pp. 123-148

Tsai, W. (2002) *Coopetition within a Multiunit Organization: Coordinating, Competition and Interorganizational Knowledge Sharing*, Organization Science, Vol. 13, No. 2, PP 179-190

Yin, R., (2009) *Case Study Research, Design and Methods,* Fourth edition, SAGE publications, Inc., California

## *9.1.  Organization reports:*

Canadian Energy Research Institute (CERI) report: *Economic Impacts of the Petroleum Industry in Canada*, July 2009

CAPP, Canadian Association of Petroleum Producers, *Environmental Challenges and Progress in Canada's Oil Sand,* April 2008

CAPP, *Water use in Canada's oil sands,* September 2009, paper nr. 2009-0022
http://www.capp.ca/getdoc.aspx?DocId=154986&DT=NTV

CAPP, *Land use in Canada's oil sands,* September 2009, paper nr. 2009-0023
http://www.capp.ca/getdoc.aspx?DocId=154988&DT=NTV

CAPP, *Oil sands: an important asset generating benefits across Canada,* September 2009, paper nr. 2009-0030
http://www.capp.ca/getdoc.aspx?DocId=159087&DT=NTV

CBSR (Canadian Business for Social Responsibility) *Stakeholder Relations in the Oil Sands,* May 2009

CCSTRM, *Canada's CO2 Capture & Storage Technology Roadmap (www.co2trm.gc.ca) – Clean Energy Technologies (March 2006)*

CERA, *Growth in the Canadian Oil Sands; Finding the New Balance,* 2009

Government of Alberta, *Alberta's 2008 Climate change Strategy; Responsibility / Leadership / Action,* January 2008
http://environment.gov.ab.ca/info/library/7894.pdf

Government of Alberta, *Environmental Management of Alberta's Oil Sand,* September 2009
http://environment.gov.ab.ca/info/library/8042.pdf

Government of Alberta, *Energy Economics, Understanding Royalties,* September 2009
http://www.energy.gov.ab.ca/Org/pdfs/Energy_Economic.pdf

Government of Alberta, *Responsible Actions: A Plan for Alberta's Oil Sands,* February 2009
http://www.treasuryboard.alberta.ca/docs/GOA_ResponsibleActions_web.pdf

OSLI, *Oil Sands Leadership Initiative – Driving Improvement in Sustainability Performance,* (appendix nr. 2)

Petroleum Communication Foundation, (October 2001) *Canada's Crude Oil Resources – Crude Oil in our Daily Lives*.

Total E&P Canada *OurTrek*, winter 2010, Issue N13

## 9.2. Internet

Capp:
- http://www.canadasoilsands.ca/en/issues/greenhouse_gas_emissions.aspx (02.02.2010)

Environment Canada:
- http://www.ec.gc.ca/pdb/ghg/about/kyoto_e.cfm (02.02.2010)
- http://www.ec.gc.ca/pdb/ghg/onlineData/downloadDB_e.cfm#sec2 (10.02.2010)

Greenpeace:
- http://www.greenpeace.org/canada/en/campaigns/tarsands/threats/climatechange (04.02.2010)
- http://www.greenpeace.org/international/news/activists-stop-climate-crime-tar-sands (24.01.2010)

Government of Alberta:
- http://www.energy.alberta.ca/OilSands/791.asp (29.03.2010)
- http://www.energy.gov.ab.ca/OilSands/793.asp (19.01.2010)
- http://www.energy.alberta.ca/OilSands/791.asp (01.04.2010)
- http://www.ramp-alberta.org/river/geography/basin+landscape.aspx (27.01.2010)
- http://www.capp.ca/getdoc.aspx?DocId=159084&DT=NTV (28.03.2010)
- http://www.oilsandsdiscovery.com/oil_sands_story/resource.html (19.01.2010)
- http://www.mining-technology.com/projects/athabascasands/ (19.01.2010)

Media:

- http://www.edmontonjournal.com/business/Tailings+pond+breaks+federal+officer/2663851/story.html (23.04.2010)
- http://www.cbc.ca/money/story/2010/04/23/alberta-tailings-ponds-oilsands-fort-hills-syncrude-calgary.html (23.04.2010)
- http://www.cbc.ca/canada/calgary/story/2010/02/01/oilsands-prentice-copenhagen.html (23.04.2010)
- http://www.dn.no/forsiden/kommentarer/article1670449.ece (23.04.2010)

# 10. Appendices

## *Appendix 1: Interview guide*

**Vision and goal of OSLI**

- Tell me about OSLI, why your organization became a member?

- How will you describe the OSLI consortium, what is the main goal?

- What is your interpretation of OSLI's vision?

- What are the main issues you are trying to solve or/and work together on?

- Why cooperate?

**Technology and Innovation**

- What do you see as the main environmental issue in this industry?

    o Do you consider these environmental issues when developing new technology?

- Shortly, how will you describe innovation? And how does OSLI provide for innovation in the oil sand industry?

- What are the challenges within OSLI regarding new technology development?

- Do the OSLI companies focus upon different fields within technology?

    o If yes, how is it decided "who should work on what", and what are your company's focus?

    o If no, how do you secure that companies within OSLI are not working at the same "thing"?

- What does the contract with OSLI hold you responsible to, and what can you do on your own?

- What or who are the main drivers behind OSLI's work for better oil sand industry?

**Collaboration**

- How is it to collaborate with competitive companies?

- How is the transparency between OSLI members?

    o Do you feel the transparency is equal between the OSLI-members?

- How and when does trust come into play in the OSLI collaboration?

- How are the activities in OSLI funded and who manages the budget?

**Advantages and Disadvantages of OSLI**

- How can OSLI make the participated companies be competitive-stronger in the future?

- What do you think is the most beneficial for your company to be a part of OSLI?

- Do you think OSLI will provide for mutual benefit for the companies within the alliance in a global market perspective?

- What are the risks within the OSLI consortium?

**Final**

- How has the OSLI collaboration functioned so far (can you come with some examples? good/bad)

- Have your company engaged in similar cooperation earlier?

    o If yes, was the outcome good or bad?

- How do you look at the future? – Regarding more scarce resources and due to environmental concerns and technological challenges.

***Appendix 2: OSLI, Oil Sands Leadership Initiative*** *– Driving Improvement in*
*Sustainability Performance*

# O S L I

*Oil Sands Leadership Initiative*
Driving Improvement in Sustainability Performance

**Our Vision:**

*Achieving World Class environmental, social and economic performance in developing this World Scale Oil Sands resource.*

December 16, 2009

## A B O U T  O S L I

- Made up of five founding companies:

  - *ConocoPhillips Canada*
  - *Nexen Inc.*
  - *Statoil (Canada)*
  - *Suncor Energy Inc. (and formerly Petro-Canada)*
  - *Total E&P Canada*

*The initiative is founded on a common understanding among its members of the need to work together to meet the challenges of responsible development.*

# THE BUSINESS CASE FOR JOINT ACTION

- **Why act now**
  - Cumulative effects
  - Market threats

- **Consequences of not taking leadership action**
  - Increased regulatory burden
  - Increased costs

- **Business value**
  - Achieving technological innovation
  - Growing investor and market confidence

3

# WHAT WE'VE SET OUT TO ACHIEVE

**The Initiative's Mandate:**  Act jointly and as individual companies to:
- Invest in technological advances and step changes
- Improve our performance  with respect to significant environmental, social and economic measures in the oil sands region
- Improve the reputation of the oil sands industry by demonstrating and communicating **environmental**, **social** and **economic** performance and technological improvements.
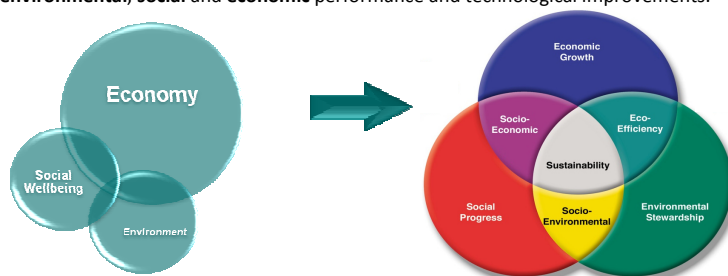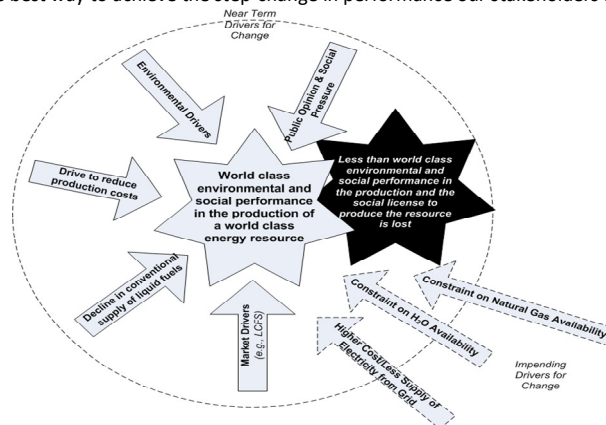
# WHAT WE'RE DOING

- Tackling projects to make a significant difference and raise industry performance standards through:

    - Setting goals

    - Putting best practices in place

    - Developing new technologies

- Together we can do more, more quickly.

- OSLI is about acceleration AND innovation.

*We work together to foster performance improvement and technology step change in tackling the most immediate and significant environmental and social issues facing the oil sands.*

# WHY WE'RE DOING IT

- The oil sands present a world-class opportunity.
- Responsible development is an enormous challenge requiring a substantially higher level of performance.
- Working together is the best way to achieve the step-change in performance our stakeholders are expecting and deserve.

# HOW WE'RE DOING IT

- Bringing our best technology, people and resources to bear to demonstrate tangible industry leadership.

- Furthering specific projects, led by each company, that will be shared with the group as a whole.

*We are engaging our stakeholders to help us ensure that we are addressing the environmental and social priorities that matter to Albertans and Canadians.*



# HOW WE'RE STRUCTURED



**Steering Committee**
COOs / SVPs of members; Deputy Ministers of observer government departments

**Coordinating Committee**
Senior representatives of members responsible for sustainable development, environment and social performance.

**Secretariat**
Part-time contracted company provides support to the Committee and Working Groups.

**Working Groups**

| Land Stewardship | Carbon Management & Energy Efficiency | Communications & Stakeholder Engagement |
|---|---|---|
| Statoil | Total | Suncor Energy & Statoil |
| Water Management | Sustainable Communites | Technology Breakthrough |
| Suncor Energy | ConocoPhillips Canada | ConocoPhillips Canada |

- **Land Stewardship**

- **Water Management**

- **Sustainable Communities**

- **Carbon Management/Energy Efficiency**

- **Technology Breakthrough**
    - Culture of sharing & collaboration
    - Pilot & demo projects worth 100's of $MM being jointly funded
    - New, innovative process & institutions
    - Energy emissions intensity reductions on track for 50% drop
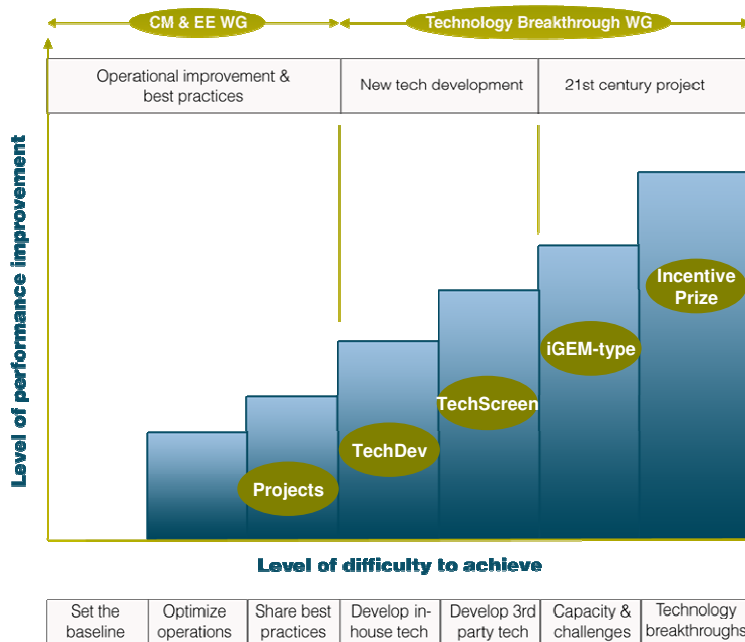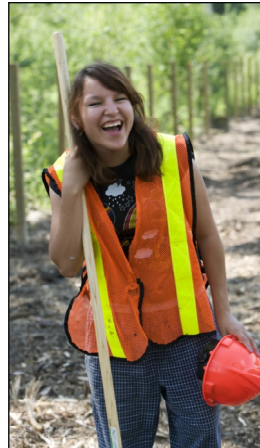
## 2009 RESULTS-HIGHLIGHTS

- **Land Stewardship**

- **Carbon Management / Energy Efficiency**

- **Water Management**

- **Sustainable Communities**

- **Technology Breakthrough**

  - Student tour of the oil sands in preparation for the 2010 iGEM team competition.

  - Selected a consultant to develop a TechScreen process to leverage joint efforts and identify new technologies.

## WHAT SUCCESS LOOKS LIKE

- New practices implemented for oil sands development which demonstrate a step change in environmental, social and economic performance.

- All oil sands players perform at best-practice levels.

- Our industry practices are broadly understood and have public support/build trust in and credibility of the industry.

- We are judged as responsible by stakeholders.

- We are emulated by others around the world.

12

Bodø Graduate School of Business
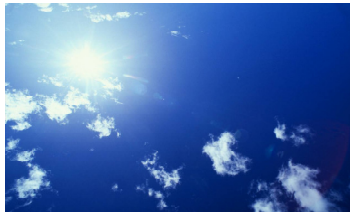
# THE ROAD AHEAD

- Progressing projects in 2010 in all key areas.

- Combining continuous improvement with a step change in performance.

- Increasing public awareness and profile of the initiative.

- Soliciting new, like-minded member companies.

- Continuing the collaborative approach – trust, sharing and participation, benchmarks and baselines.

## *Appendix 3: What is Bhopal?*

The Bhopal disaster was an industrial catastrophe in 1984 in India. December the third the plant released toxic gas, which over 500 000 people was exposed to. Over 3.800 people died because of this disaster. Many years later, the toxic chemicals at the plant still leak and pollute groundwater in the region and people still dies because of this disaster. In 1994 the death toll was estimated to 6000 because of this disaster in 1984.

The events in Bhopal revealed that expanding industrialization in developing countries without concurrent evolution in safety regulations could have catastrophic consequences. The disaster demonstrated that seemingly local problems of industrial hazards and toxic contamination are often tied to global market dynamics.

For more info, go to: http://www.eoearth.org/article/Bhopal,_India

## *Appendix 4: What is an X-prize?*

An X-Prize is a \$10 million+ award given to the first team to achieve a specific goal, set by the X PRIZE Foundation, which has the potential to benefit humanity. Rather than awarding money to honor past achievements or directly funding research, an x-prize incites innovation by tapping into our competitive and entrepreneurial spirits.

For more info, go to: http://www.xprize.org/about/x-prizes