

2015

EVALUATING THE OIL SANDS
RECLAMATION PROCESS: ASSESSING
POLICY CAPACITY AND STAKEHOLDER
ACCESS FOR GOVERNMENT AND NON-
GOVERNMENTAL ORGANIZATIONS
OPERATING IN ALBERTA'S OIL SANDS

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Recommended Citation

Patterson, Tyler, "EVALUATING THE OIL SANDS RECLAMATION PROCESS: ASSESSING POLICY CAPACITY AND STAKEHOLDER ACCESS FOR GOVERNMENT AND NON-GOVERNMENTAL ORGANIZATIONS OPERATING IN ALBERTA'S OIL SANDS", Master's Thesis, Michigan Technological University, 2015.
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**EVALUATING THE OIL SANDS RECLAMATION PROCESS: ASSESSING POLICY
CAPACITY AND STAKEHOLDER ACCESS FOR GOVERNMENT AND NON-
GOVERNMENTAL ORGANIZATIONS OPERATING IN ALBERTA'S OIL SANDS**

By

Tyler Patterson

A THESIS

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

In Environmental and Energy Policy

MICHIGAN TECHNOLOGICAL UNIVERSITY

2015

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This thesis has been approved in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in Environmental and Energy Policy.

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Dedication Page

I would like to extend a thank you to my Family, Friends, and Michigan Technological University for the support and opportunity to pursue this research project. Also, the Embassy of Canada Program Canada Studies Grant for assisting in making this research possible.

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Acknowledgements

I would like to acknowledge my thesis committee members Dr. Adam Wellstead, Dr. Carol MacLennan, and Dr. Rodney Chimner for their guidance and assistance throughout this project. I would also like to acknowledge the Michigan Technological University Social Sciences Department for the opportunity to complete this program and this research. I would like to extend my gratitude to the Embassy of Canada Program Canada Studies Grant for covering the costs associated with this project. Finally, I would like to thank the Michigan Technological University Athletic Department as well as my Family and Friends for their support throughout this project.

Abbreviations

AE	Alberta Environment
AEMERA	Alberta Environment Monitoring, Evaluation, and Reporting Agency
AER	Alberta Energy Regulator
AESRD	Alberta Environment Sustainable Resource Development
BSD	Base Security Deposit
CAPP	Canadian Association of Petroleum Producers
CBA	Cost Benefit Analysis
CEMA	Cumulative Environmental Management Association
ELC	Equivalent Land Capability
EPEA	Environmental Protection and Enhancement Act
JOSM	Joint Oil Sands Monitoring Plan
MFSP	Mine Financial Security Program
NGO	Non-Government Organization
OSRIN	Oil Sands Research Information Network
PEMBINA	Pembina Institute
RA	Risk Analysis
REDA	Responsible Energy Development Act
WBEA	Wood Buffalo Environmental Association

Abstract

By employing interpretive policy analysis this thesis aims to assess, measure, and explain policy capacity for government and non-government organizations involved in reclaiming Alberta's oil sands. Using this type of analysis to assess policy capacity is a novel approach for understanding reclamation policy, which establishes this research as a unique contribution to the literature surrounding reclamation policy. The oil sands region, located in northeast Alberta, Canada is an area of interest primarily because of the vast reserves of bitumen and the environmental cost associated with developing this resource. An increase in global oil demand has established incentive for industry to seek out and develop new reserves. Alberta's oil sands are one of the largest remaining reserves in the world, and there is significant interest in increasing production in this region. Furthermore, the United States is pursuing a supply side solution to meet North American oil demands. This solution relies upon the development of reserves in both the United States and Canada. Alberta's oil sands are the largest reserve in North America, and continue to expand to meet growing demands. This expansion is also the source of significant disturbance across the region. This disturbance, and the promises of reclamation, is a source of contentious debates amongst stakeholders and continues to be highly visible in the media.

If oil sands operations are to retain their social license to operate, it is critical that reclamation efforts be effective. One concern non-governmental organizations (NGOs) expressed criticizes the current monitoring and

enforcement of regulatory programs in the oil sands. Alberta's NGOs have suggested the data made available to them originates from industrial sources, and is generally unchecked by government. In an effort to discern the overall status of reclamation in the oil sands this study explores several factors essential to policy capacity: work environment, training, employee attitudes, perceived capacity, policy tools, evidence based work, and networking.

Data was collected through key informant interviews with senior policy professionals in government and non-government agencies in Alberta. The following are agencies of interest in this research: Canadian Association of Petroleum Producers (CAPP); Alberta Environment and Sustainable Resource Development (AESRD); Alberta Energy Regulator (AER); Cumulative Environmental Management Association (CEMA); Alberta Environment Monitoring, Evaluation, and Reporting Agency (AEMERA); Wood Buffalo Environmental Association (WBEA).

The aim of this research is to explain how and why reclamation policy is conducted in Alberta's oil sands. This will illuminate government capacity, NGO capacity, and the interaction of these two agency typologies. In addition to answering research questions, an additional goal of this project is to show interpretive analysis of policy capacity can be used to measure and predict policy effectiveness. The oil sands of Alberta will be the focus of this project, however, future projects could focus on any government policy scenario utilizing evidence-based approaches.

Chapter 1: Introduction

Alberta, Canada contains the Worlds second largest remaining petroleum reserve (Woynilowicz et. al., 2005). The reserves present throughout this region occur as bituminous sand deposits. These deposits are predominantly concentrated in the northeast region of Alberta. From 2010 to 2030 oil sands production is projected to double, increasing from three million barrels per day in 2010 to over six million barrels per day by 2030 (VanderKlippe, 2012). Bituminous sands cover roughly 142,000 km² throughout northeast Alberta. For a reference to the scale of these deposits see Table 1.1 and Figure 1.1. The oil sands are situated across a landscape considerably greater in area than New York State, and are approximately the same area as the state of Wisconsin.

Table 1.1: Oil Sand Deposits Land Area Comparisons

Location	Area (Square Kilometers) Km²
Alberta	661,848
Oil Sands Deposits	142,000
Wisconsin (25 th largest state)	140,662
New York (30 th largest state)	122,283

The area encompassed by the oil sands is expansive, and therefore the potential risks associated with developing such a vast area must be carefully considered. Primary concerns include: public health, water pollution, air pollution, wildlife habitat fragmentation, wildlife health, wetland loss, first nations rights, climate effects, and the financial costs of reclamation (Alberta Environment and Sustainable Resource Development, 2012). The government of

Alberta has addressed these risks and declared the sustainable development of oil sands a current priority. In a discussion document Energy Alberta stated,

“Energy development is expected to remain a cornerstone of Alberta’s energy future economic growth. Realizing the full benefits of our energy resources - oil, gas, oil sands and coal – depends on Alberta’s ability to continue attracting significant levels of investment. Alberta must remain one of the most competitive places to invest and do business. Having efficient and effective regulatory systems is an important part of being competitive.” (Provincial Government of Alberta, 2011).



Figure 1.1: Alberta’s Oil Sands Deposits

The three largest oil sand deposits, Peace River, Athabasca, and Cold Lake are displayed in this map of Alberta.

In response to public concerns, the provincial government has implemented several legislative and regulatory measures to control environmental issues related to industrial development. These measures include the Environmental Protection and Enhancement Act, Responsible Energy Development Act, Land Use Framework, Mine Financial Security Program, Joint Oil Sands Monitoring Plan, and the Upstream Oil and Gas Reclamation and Remediation Program (Alberta Energy Regulator, 2014).

Alberta has also established a new regulatory agency for oil sands, oil, gas, and coal. In 2012, the Responsible Energy Development Act was established, which led to the introduction of the Alberta Energy Regulator (AER) in 2014 (Alberta Energy Regulator, 2014). The new regulatory agency has been tasked with regulating energy resource development. AER is designed to both guide and enhance the reclamation process within the oil sands. AER is a quasi-autonomous non-governmental organization, which is to say they follow and enforce government policy, but they also operate at arms length from the government (Alberta Energy Regulator, 2014). The environment of northern Alberta, the health of the citizens of Alberta, and the continued economic growth of Alberta are dependent on the success of AER and the associated reclamation efforts.

NGOs who are not considered at “arms-length” from government comprise yet another set of actors who contribute to reclamation, regulation, and reclamation policy in Alberta’s oil sands. These organizations function primarily as consultants who advise reclamation policy. NGOs increase the

policy expertise for government agencies involved in the reclamation process (Evans and Shields, 2014). Another function for NGOs is to act as government watchdogs. In this capacity NGOs will present a unified front for the populations they represent towards government and industrial initiatives. The Government of Alberta has placed an emphasis on multi-stakeholder involvement in the policy process through initiatives such as the Land Use Framework and the Lower Athabasca Regional Plan (Provincial Government of Alberta, 2012a). The intent of this initiative is to involve Alberta's stakeholders in the policy and decision making process. By increasing stakeholder involvement the result is increased diversity of policy opinions and reduced knowledge gaps, which in turn leads to an increase in policy expertise. As policy expertise increases so too does policy capacity. As the quality of personnel within the policy network is elevated the ability of the network to produce and implement effective policy is improved. The following research questions were designed to assess the overall impacts that policy advisory networks and agency resources have on reclamation policy capacity in Alberta's oil sands. Policy capacity is a focal point of this project because it closely associated with policy success (Wellstead and Stedman 2010; Howlett, 2009; Evans, et. al., 2011).

Research Questions

- 1) What role do Alberta's NGOs play in reclamation policy in the oil sands?**
- 2) With regards to oil sands reclamation, what are the strongest indicators of policy capacity in government and non government organizations within Alberta?**
 - A) How do the tasks performed and policy tools employed by government agencies and NGOs reflect on their policy capacity?**
 - B) How do policy-based attitudes of government and NGOs impact these organizations' policy capacity?**
- 3) What can these policy capacity indicators reveal about the future of the oil sands reclamation?**
- 4) What are the reclamation policy implications?**

A unique aspect of this research is the focus placed on NGOs involved in the multi-stakeholder processes. Specifically, the NGO stakeholders involved in oil sands reclamation and policy design. This research design parallels an interpretive analysis conducted by Leslie Pal in 1995 on Canadian-based human rights. Interpretive policy analysis utilizes key informant interviews to explain variances in policy perceptions. The underlying causes of these variances can then be investigated and explained along with what impact the discrepancy has on policy. Explaining the policy advisory network for oil sands reclamation will be essential to assessing the overall policy capacity. Pal illustrated the divergence of NGO and government action by interviewing policy actors who explained how their agencies interpreted information and how they acted as a result of their interpretations. While the design of this research parallels Pal's research on Canadian-based human rights, the focus of the research is entirely different. This analysis will provide new insights for oil sands reclamation by

assessing policy capacity and explaining government and NGO perceptions of reclamation policy.

Research question one explains the advisory relationships between government and NGOs. Howlett (2009) explains why government and NGOs are of concern when investigating the policy process.

“Government and, increasingly, non-governmental actors in Canada and elsewhere are being asked to design effective long-term policy measures to deal with such problems without necessarily having the kinds of resources they require to successfully avoid common policy failures through the use of enhanced evidence-based analytical techniques” (Howlett, 2009).

By including both government and NGOs this project can explain the complete network for oil sands reclamation. Additionally, assessing the policy capacity associated with agencies involved in the policy network will explain the dynamics of reclamation policy work (Wellstead et. al., 2011). Research questions two and three target government and non-government employees involved in the policy process. This information is used to explain the staff experience for those working in reclamation policy. This project aims to demonstrate the value of interpretive policy analysis and policy capacity assessment for complex policy issues. The results from this research should encourage the broader application of interpretive policy analysis and policy capacity assessment.

Data collection was carried out through a series of key informant semi-structured interviews. These interviews assessed policy capacity for government and non-government agencies involved in oil sands reclamation. Government

document revision provided an additional channel for data collection. The data collection process was another unique aspect of this research when compared with policy capacity studies that rely on surveys. There are several reasons why interviews, and not surveys, were better fit for this project. First, the size of the population involved in oil sands reclamation was more conducive to interviews, because it is a relatively small population. Interviews also allowed for flexibility in the line of questioning, which is not possible in surveys. Key informant interviews also allowed for observations to be made during data collection, observations are important for interpretive policy analysis and allow for a more comprehensive depiction of reclamation policy and policy advice.

Policy capacity is an indicator for reclamation policy effectiveness; several studies carried out in Canada have indicated policy capacity to be an excellent measure of policy support and policy effectiveness (Howlett, 2009; Wellstead and Stedman 2010; Evans, et. al., 2011; Baskoy et. al., 2011). Furthermore, policy capacity research conducted within Canada has suggested lower levels of policy capacity have prevented evidence-based policy making from being effectively implemented. Investigating the dynamics between government and non-government agencies involved the oil sands explains where capacity is falling short. Policy that is not implemented and supported appropriately will underperform or fail (Howlett, 2009).

Oil sands reclamation policies have been designed to follow an evidence-based paradigm (Provincial Government of Alberta 1993; 2011; 2012d).

Therefore, assessing policy capacity for organizations involved in reclamation

policy will provide insights for enhancing the overall effectiveness of reclamation policy. Former Deputy Minister of natural resources, George Anderson, reiterates the importance of both government and NGO involvement in the policy process in the following quote. “A healthy policy-research community outside government can play a vital role in enriching public understanding and debate of policy issues, and it serves as a natural complement to policy capacity within government” (Anderson, 1996; Howlett, 2009). Therefore, government and NGOs should be factored into the overall policy capacity for oil sands reclamation.

Policy capacity is understood as a measure of resources. This measure includes both the quality and quantity of resources available to a particular agency. This project is focused on the resources available to individuals and agencies involved in oil sands reclamation. The primary resources used to explain policy capacity include: policy expertise, staffing, policy tools, the use of evidence-based policy making, and organizational stability. Additionally, the ability of an agency to mobilize their resources for public initiatives is another important factor of policy capacity (Howlett, 2009). Policy capacity will act as an indicator of policy developers ability to anticipate and respond to changing conditions, evaluate current activities to inform future policy, develop programs to implement policies, and manage resources (Wellstead and Stedman, 2010).

The measurement of policy capacity is an assessment of resources; this assessment can be conducted for government and non-government agencies alike. The efficiency of policy delivery and effectiveness of oil sand reclamation

can be estimated by assessing policy capacity. Measuring policy capacity will reveal areas in which agencies are fully supporting a policy initiative, as well as, areas where a greater allocation of resources could improve the ability of an agency to effectively implement policies. This analysis will also explain government and non-government policy advice relationships. These relationships are critical for NGO capacity. The simultaneous expansion of industry, and public call for successful reclamation, has brought significant attention to improving oil sands reclamation related policies. This research will provide valuable insights for the current design, implementation, and state of the oil sands reclamation policy.

Interpretive Policy Analysis

The objective of policy analysis is to affect policy by providing policy makers with information they would not otherwise be preview to. Policy analysis is conducted to assist policy makers in designing and implementing sound policy. Policy analysts are involved in introducing issues to the policy agenda, working with decision-makers to advise adoption of policies, detailing implementation, and evaluating policy (Colebatch, 2006). Policy analysis can be designed to target the potential outcomes of a policy or the actual policy impacts after a policy initiative has been implemented. In this case we are targeting both the current outcomes and potential future outcomes.

An important foundation for interpretive policy analysis is the argumentative policy turn in policy analysis (Fischer and Forester, 1993). This

concept relates to policy arguments and emphasizes searching for the facts within policy arguments, and not just blindly criticizing policy or accepting policy arguments as fact (Fischer and Forester, 1993). This practice is conducted with a complete understanding of what policy analysts and advisors do, as well as where they work. These facts are essential in accounting for the political conditions surrounding the policy argument, the framing around the policy or problem, and the potential bias of the individual forming the argument (Fischer and Forester, 1993). The argumentative turn targets the communication and written strategies of policy planners and analysts. It also examines how these individuals assess their various policy options (Fischer and Forester, 1993).

Fischer and Forester state,

“Theoretically, the focus on argumentation allows us to recognize the complex ways analysts not only solve but formulate problems, the ways their arguments express or resist broader relations of power and belief, and the ways their practical arguments are inescapably both normative and descriptive. Finally, our focus on argumentation reveals both the micropolitics of planners’ and analysts’ agenda setting, selective representations, and claims, and the macropolitics of analysts’ participation in larger discourses” (Fischer and Forester, 1993).

The argumentative turn supports the analysis of beliefs, principles, and actions of individuals subscribing to various paradigms in an effort to explain policy decisions. This concept ties directly into interpretive policy analysis. Interpretive analysis relies on the understanding that there are multiple angles from which to understand and solve a policy problem. Additionally, there is no absolute or indisputable view from which to understand a policy issue (Yanow, 2000). Interpretive policy analysis varies from other forms of policy analysis,

because it does not attempt to separate the values, beliefs, education, background, and experiences of policy actors from the actual analysis (Yanow, 2000). Yanow states that, “interpretive approaches to policy analysis focus on the meanings that policies have for a broad range of policy-relevant publics.” (Yanow, 2000). The emphasis should be placed on the range of groups represented in an interpretive analysis. An interpretive analysis is focused on diverse or conflicting paradigms surrounding a policy issue. A central question in any interpretive policy analysis will ask, “how is the policy issue being framed by the various parties to the debate?” (Yanow, 2000). This project is concerned with government agencies and NGOs, and how they are framing issues related to reclamation policy in Alberta’s oil sands.

This analysis will combine key informant interviews, observations, and literature reviews. The aim is not to prescribe, but rather explore what policy actors do and explain how they view and interact within the policy process. The focus for this thesis will be directed at the various stakeholders and organizations involved in oil sands reclamation, furthermore we will explore how each organization understands and works within the policies directing oil sands reclamation. This form of analysis is not concerned with, nor does it attempt to derive and compare the costs of reclamation policy (Yanow, 2000). This research aims to explain how the policy process works, and why the reclamation process works as it does. The advantage of conducting an interpretive policy analysis is being able to present how stakeholders and organizations understand and work within the policy process. This can be

achieved, because we are not limited to assessing the costs and benefits of a policy. The results of this analysis will yield information explaining the interactions of organizations involved in the reclamation policy process. Additionally, the results will show how reclamation policies are informed and developed and why this process occurs as it does.

Overview of Thesis

The following chapters will expand on oil sands reclamation and oil sands reclamation policy in Alberta, Canada. Chapter 2 provides a background and early history of oil sands development and discusses how the oil sands and reclamation policies have evolved. Chapter 3 is the literature review, which examines previous studies conducted on oil sands policy, policy capacity, interpretive policy analysis, and evidence based policy. Chapter 4 explains the methods used in this project and why the use of interpretive analysis was unique and appropriate for this project. Chapter 5 will use several tables to explore the results of the interviews. Chapter 6 is the discussion section where the research questions answered using the information provided from the interviews and literature review. Chapter 7 will conclude the paper and provide current policy status and future policy implications for oil sands reclamation.

Chapter 2: The Evolution of Reclamation in Alberta's oil sands

The first portion of chapter two will review the history of development and government involvement in the oil sands. Following this will be a discussion of the primary government agencies and NGO actors involved in reclamation. An overview of reclamation and more specifically what reclamation in the oil sands is will follow. The final portion of this chapter will explore and discuss the key policies and acts directing reclamation in Alberta's oil sands.

A Brief History of Oil Sands Development in Alberta

The government in Alberta has played an active role in the oil sands since it began conducting government sponsored geological studies in 1875 (Centre for Energy, 2012). As early as 1788, Europeans recorded that First Nations communities utilized this bituminous resource for water proofing canoes and medicinal purposes (Centre for Energy, 2012). While the presence of this resource has been known for centuries, these deposits were left undeveloped when other major oil fields in North America came on line (Humphries, 2008). A combination of high development costs, lagging technology, and the low price of crude oil retarded development in the oil sands. Oil prices remained relatively stable at just under \$20.00 per barrel from the 1940s to the early 1970s (Williams, 2011). A significant step in Canadian energy policy was undertaken in 1960 when the National Oil Policy and Borden Commission developed the, "Ottawa Valley Line" (Helliwell, 1979). This divided the Canadian national oil market into two regions. From the Ottawa River Valley to the west consumers were delivered oil from Alberta (Doern and Gattinger, 2003), which sold at a

higher rate than oil on the world market. East of the Ottawa River Valley consumers were delivered cheaper oil that was imported. This policy was established to drive the development of Alberta's oil industry (Doern and Gattinger, 2003; Doern and Toner, 1985). The line protected Canada's western oil market, which included Alberta's oil reserves. Helliwell (1979) expands on the significance of the Ottawa Valley Line from the 1960s through the early 70s.

“Canada had net oil imports more than half as large as domestic production. By comparison, U.S. net oil imports in 1960 were 20% of domestic production. With the protection of the Ottawa Valley Line, and with increasingly easy access to U.S. markets in the late 1960s and early 1970s, Canadian oil production increased almost fourfold between 1960 and the mid-1970s” (Helliwell, 1979).

The “Ottawa Valley Line” played a critical role in developing the oil industry within Alberta and establishing the province as a major oil producer in North America (Helliwell, 1979). In the 1970s global crude oil prices increased and Alberta's oil sand operations ramped up production to one million barrels per month (Centre for Energy 2012). In 1986, improvements in technology allowed for industry's costs to come down for an upgraded barrel of oil sands oil. The production costs dropped from \$35.00 CND per barrel to \$13.00 CND per barrel, which significantly increased industry's profit margin (Centre for Energy, 2012). This marked a dramatic decline in production costs during a period when global oil prices had been over \$40.00 per barrel for nearly a decade (Williams, 2011). In 1993, the National Oil Sands Task Force was created to establish a plan that would increase investors for oil sands development (Woynillowicz, Severson-Baker, Reynolds, 2005). This task force was successful, and as a result

of increased investments the number of oil sands projects has increased across the region from the 1990s through the present. Over this same period, the global price of oil has increased from roughly \$20.00 per barrel to upwards of \$90.00 per barrel, which has brought immense profits to the region (Centre for Energy, 2012). Increasing oil prices combined with the vast remaining deposits continues to foster intrigue for potential investors in the oil sands.

Support for the oil sands came from George W. Bush administration's national energy policy, which focused on reducing the United States dependence on oil from the Middle East. The administration favored a supply side solution where it would increase production in Alaska, as well as increase imports from Canada and Mexico (Doern and Gattinger, 2003). The continued pursuit to increase domestic and North American production of oil, by the Obama administration, has supported steady growth within the oil sands. Although, recently the Prime Minister of Canada, Stephen Harper, has made it increasingly difficult for foreign investors to gain controlling stake in the oil sands.¹

¹¹ However, Canada's position on foreign investment appeared to shift when ¹Stephen Harper, the Prime Minister of Canada, blocked Chinese owned CNOOC Limited from acquiring a controlling interest in Nexen Incorporated in 2012 (Vanderklippe et. al. 2012). The Harper administration consulted foreign governments and domestic academics in an effort to develop a plan for foreign investment in the oil sands. It appears moving forward state controlled foreign investments will be assessed to make ensure the acquisition does not result in a foreign state gaining controlling shares of a company or the industry (Vanderklippe et. al. 2012). As a result, in 2013 foreign investments in the oil sands dropped 92% from \$27 billion to \$2 billion; activity for mergers and acquisitions also declined in 2013 from \$66 billion to \$8 billion (Iverson, J., 2013). While this is a highly controversial move by the Harper administration, the goals of reducing foreign state control within the oil sands is to improve Canada's ability to regulate and look out for Canadian interests. This is apparent in the prime minister's statements, "Canadians have not spent years reducing the ownership of sectors of the economy by our own governments, only to see them bought and controlled by foreign governments instead." (Vanderklippe et. al. 2012). It will take time to understand the full weight of this approach taken by the Harper administration;

Oil Sands 101

Approximately 23 percent, of Alberta is covered by oil sands, which are predominantly concentrated throughout northeast Alberta (Woynillowicz, et. al., 2005). The bitumen, or oil, contained within Alberta's sands is not easily accessed by traditional drilling methods. Bitumen comprises roughly 10-12 percent of the soil makeup throughout the deposits and exists in a viscous tar-like state (Woynillowicz et. al. 2005; Humphries, 2008).

Open pit and in-situ are the two dominant methods of mining in the oil sands. Open pit mining is conducted when deposits are located near the surface. The vegetation and topsoil are removed to expose the bitumen deposit. This method of mining is highly effective at removing bitumen deposits, however, it is also notably invasive. Another mining technique, known as in-situ mining, is used for deposits that are located deeper within the soil profile. The distinction whether a mine will be open pit or in situ depends on whether the deposit is within 100 meters of the surface. Approximately 90 percent of oil sands can be mined using the less invasive in-situ practices (Woynillowicz et. al., 2005). Steam assisted gravity drainage is the primary form of in situ mining within the oil sands. High-pressured steam is pumped into the ground to release the bitumen from the sands. A second well beneath the steam collects the oil and pumps it to the surface (Woynillowicz et. al., 2005). This method of mining, while less invasive than surface mining still leaves a footprint requiring reclamation.

however, preventing foreign states from controlling stakes in companies should make it easier for Canadian agencies to regulate oil sands operations.

Once the bitumen is removed from the deposit it must be upgraded before it can be transported to refineries. The raw bitumen arrives at one of the five upgraders in Alberta and enters the upgrading process (Alberta Energy Regulator, 2014). In 2012 approximately 908 million barrels of oil were transported to upgraders and markets through more than 415,152 kilometers of pipelines in Alberta (Alberta Energy Regulator, 2013). For perspective, the distance covered by pipelines in Alberta is greater than ten times the circumference of the earth, and the vast majority of these pipelines are now to be regulated by the newly formed Alberta Energy Regulator.

The raw bitumen is too dense and sometimes too high in sulfur to be piped directly to refineries; therefore, it enters the upgrading process where the objective is to decrease the density or create synthetic crude oil (Natural Resources Canada, 2013; Gray, 2014). After this process is completed the product can be piped to refineries and sold.² This process will continue for the life of the mine, or until such a time where it is no longer generating a profit. There is no set timeframe on a mine closing; however, upon mine closing

² Upgrading bitumen is an essential part of the oil sands process. Upgrading adds value to the raw product and allows the resource to be an input for other petro industries. The raw resource will first enter a vacuum distillation unit, which can recover upwards of 50 percent of bitumen (Gray, 2014). Molecules that cannot be distilled will then enter the primary upgrading process where they are cracked. Cracking is a process where the molecules are exposed to high temperatures, over 400 degrees Celsius. This is done to break carbon bonds and increase the carbon to hydrogen ratio. Carbon rejection and hydrogen addition are the two strategies used to achieve this (Natural Resources Canada, 2013). The second step in upgrading is used to remove sulfur and metals, this is typically achieved through chemical or biological catalysts (Natural Resources Canada, 2013). The end product is known as synthetic crude oil and is shipped on to refineries to be sold.

industry is required by law to reclaim all land they disturb to equivalent land capability and return the land to the crown.

Reclamation Policy in the Oil Sands

For over a half century reclamation has been ongoing on land affected by oil sands (BGC Engineering, 2010). During the 1960s reclamation within the oil sands was centered around ground stabilization and erosion control. Over the last half century industry has undergone a tremendous expansion throughout the region. The government of Alberta has established several provincial acts, devised new strategies, and enlisted the assistance of various NGOs to advise and assist in reclaiming the oil sands.

Prior to 1963, the responsibility to reclaim disturbed landscapes was listed in lease agreements between industry and landowners (Powter, et. al. 2012). During this period Alberta became the first province to draft legislation for land reclamation, The Surface Reclamation Act (Powter, et. al. 2012). The Surface Reclamation Act did not establish a firm definition for reclamation, but it did bring attention to land surface expectations for the post mining landscape. In 1969, the government of Alberta continued to advance reclamation policy with the Public Lands Act, which gave Alberta Sustainable Resource Development the authority to issue reclamation orders and certificates (Provincial Government of Alberta, 2000; Powter, et. al., 2012). The certification process was given more direction in 1973 with the Land Surface Conservation and Reclamation Act; which stated a reclamation certificate was to be issued only after the government determined the land had been reclaimed to a satisfactory condition

(Powter, et. al., 2012). In 1983, the Land Surface Conservation and Reclamation Act was amended to address issues of contamination on industrial sites.

The next advancement in reclamation policy came in 1993, when the Environmental Protection and Enhancement Act (EPEA) was established. This particular piece of legislation targeted environmental concerns pertaining to air, water, and land. The environmental protection and enhancement act continues to be the primary act regulating oil sands reclamations today. The EPEA requires disturbed land to be returned to equivalent land capability (ELC). Equivalent land capability is defined in the Conservation and Reclamation Regulation as such:

“Equivalent land capability means that the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but the individual land uses will not necessarily be identical” (Provincial Government of Albert, 1993).

The responsibility falls on the company managing an oil sands project to determine what ELC will be for the land disturbed by their project. Capability is the operative portion of this phrase, as it often refers to what use or production value the land will have post mining (OSRIN, 2011). ELC is used to direct long term planning for mine reclamation at the project’s inception. ELC can also change and adapt as the project develops through time. As an oil sand mine approaches the end of the projects productive life, AER will use ELC as a measuring tool to determine if the land has been successfully reclaimed or not (Jones and Forrest, 2010; OSRIN, 2011).

The Upstream Oil and Gas Reclamation and Remediation Program built off of the EPEA in 2003 (Provincial Government of Alberta, 2013). This program supports part six of the EPEA following the guidance of a multi-stakeholder committee. From 2004 to 2013 the program was carried out by AESRD, but recently the responsibility has been transferred to AER (Provincial Government of Alberta, 2012b; Alberta Energy Regulator, 2014). The program is designed to assist in the reclamation certification process, while involving several stakeholder groups including: landowners, government, industry, and other stakeholders. The mission of this program is to ensure the land in Alberta used for oil and gas is reclaimed. Part six of the EPEA requires oil sites on public and private land to be reclaimed when the sites are no longer productive (Provincial Government of Alberta, 2010). The responsibility for reclamation falls on the company that mined the site, and industry is liable for surface issues for up to 25 years after reclamation. Furthermore, industry is also responsible for site contamination for the lifetime of the company. The final phase of this program is completed when a reclamation certificate is issued; this occurs only after a mine has submitted an analysis of contamination, and a report addressing how contaminants and surface issues were addressed (Oil and Gas Remediation and Reclamation Advisory Committee, 2004; Alberta Energy Regulator, 2013).

In 2011, the Alberta Land Stewardship Act was amended to provide a legal basis for establishing regional plans using the land use framework. The framework divides Alberta into seven regions. A long-term development plan is to be constructed for each region, and the goal of the development plan is to

balance economic growth and environmental protection (Provincial Government of Alberta, 2012a). The Lower Athabasca Regional Plan was the first to be completed in 2012, in large part due to presence of oil sands operations throughout the region. This plan sets environmental limits for pollution, determines sensitive landscapes to be conserved, assures industry the opportunity to develop, supports the economy, and established recreational areas in the region (Provincial Government of Alberta, 2012a). This plan was established through a phased consultation process that involved numerous stakeholders. Additionally, an audit is conducted every five years to insure the objectives of the regional plan are being pursued (Government of Alberta, 2014). Every ten years a comprehensive examination of the regional plan is completed and a report is submitted. If changes are required the regional plan may be amended at this time (Government of Alberta, 2014). The regional plans will continue to evolve as development and reclamation in the region move forward. Input from stakeholders in these regions will play an integral role in guiding this process.

In order to secure the funds required to conduct reclamation, the mine financial security program was established by AESRD in 2010. This program is also now under the direction of AER (Provincial Government of Alberta, 2012b; Alberta Energy Regulator, 2014). The program follows the EPEA directives, which acknowledge industry is responsible for reclaiming the land disturbed by mining or mining related activities. The AER security program aims to undertake

a comprehensive approach to managing the risks associated with oil sands mining. This four-step approach includes:

1) “Quantification of liabilities for all facilities, as well as the assets dedicated to the management of those liabilities;” 2) “Regular and appropriate reporting and review of that information;” 3) “A requirement to undertake and report ongoing reclamation.” 4) “Security Collection” (Alberta Energy Regulator, 2014).

The mine financial security program also undertakes an asset-to-liability approach, which recognizes the value of resources associated with an approved project. The program requires a base amount of security for each project. This base security is eventually used for the reclamation of the disturbed site. There are four types of financial security deposits: base security deposit, operating life deposit, asset safety deposit, and outstanding reclamation deposit. The base security deposit (BSD) is required from all projects. As of 2011 an oil sands mine without EPEA approval requires a BSD of \$30 million and an oil sands mine and upgrader without EPEA approval requires a BSD of \$60 million (Alberta Energy Regulator, 2014). The operating life deposit requires a mine to start paying a security when there are less than 15 years left of productive mining with the intention of having a full security when there are six years of productive mining left (Alberta Energy Regulator, 2014). The asset safety factor deposit operates to maintain a certain ratio of asset to liability for a mine, and if the liability increases then the mine is required to pay more into securities (Alberta Energy Regulator, 2014). Finally, there is the outstanding reclamation deposit, which companies are forced to pay into when they fail to meet reclamation goals

(Alberta Energy Regulator, 2014). As of October 15, 2012 the Mine financial security program held \$967,585,502 (Provincial Government of Alberta, 2012c).

In 2012, as a part of Alberta's Regulatory Enhancement Project, the Responsible Energy Development Act was passed. The responsible energy development act established the Alberta Energy Regulator (AER), and defined the responsibilities of this new agency. The regulatory enhancement project set out to improve policy development, stakeholder involvement, and regulation in Alberta. AER has authority to enforce rules under the environmental protection and enhancement act, water act, and public lands act. AER has been tasked with reviewing proposed energy development, overseeing energy based activities following government policies, inspecting energy activities, and enforcing regulations (Alberta Energy Regulator, 2014). In the spring of 2014 AER took over for Alberta Environment as the primary agency directing reclamation policy in Alberta. Alberta Environment and Sustainable Resource Development, among other agencies, are now a supporting resource for AER (AER, 2013).

The evolution of reclamation in Alberta is best summarized in the following statement, "Alberta's regulatory approach to industrial land conservation and reclamation has evolved, from an initial focus on removing surface debris and safety hazards to today's increasing emphasis on returning ecological function and minimizing cumulative effects." (Powter et. al. 2012) The introduction of AER is yet the newest development in Alberta's pursuit of efficient reclamation in the oil sands. The shift in Alberta's reclamation policy focus suggests Alberta has been slowly moving towards an integrated approach

to resource management (Rayner & Howlett, 2009; Provincial Government of Alberta, 2014). The current strategy in Alberta is taking into account the environmental, economic, and social impacts of resource development. AER, AEMERA, and regional plans all factor into this integrated approach. The integrated resource management system should strengthen stakeholder relations, by involving stakeholders in a meaningful way.

Pollution Concerns Associated with Oil Sands and Reclamation

There are a number of environmental and pollution concerns associated with oil sands development. These can be separated into water, air, land, climate, and reclamation concerns. The most pressing environmental concerns are related to water, reclamation, and tailings management. The volume of water required for the oil sands mining and upgrading process is significant, 117 million cubic meters in 2011 (Pembina Institute, 2015). This amount of consumption has an impact downstream, because much of the water used in the mining and upgrading processes cannot be immediately returned to the watershed. Instead this water is retained in tailings ponds, end pit lakes, or is recycled back into the mining process (Pembina Institute, 2015). Tailings present one of the greatest challenges to reclamation in the oil sands. Tailings are composed of the waste materials produced in the mining process, and contain a medley of toxic substances. Some of these toxins include: arsenic, benzene, lead, mercury, toluene, and polycyclic aromatic hydrocarbons or PAHs (Kelly. et. al., 2009; Pembina Institute, 2015). There is concern that toxic byproducts from mining the oil sands will be released into the watershed or the

surrounding environment. Additional concerns address the impact the oil sands industry has on climate change. The mining process for oil sands is energy intensive and results in higher emissions of CO₂ during the lifecycle when compared with traditional oil mining (National Energy Technology Laboratory, 2009).

As more mining operations continue to be erected across northeastern Alberta, the likelihood of a toxic release occurring will increase. How to deal with tailings and contain the toxins present within the tailings indefinitely is a challenge industry, government, academia, NGOs, and other stakeholders are currently discussing. It is essential for reclamation and regulation within the oil sands to be appropriately designed and executed. If this can be achieved the resulting reclamation and tailings management should be equipped to address this environmental hazard.

The Mining and Reclamation Process in the Oil Sands

Open pit mining and in-situ mining are the two dominant types of mines present across the oil sands landscape³. The nature of the oil deposits in Alberta requires industry to use “non- traditional” mining methods. This is because standard gravity wells will not extract the bitumen in the oil sands. Furthermore,

³ Open pit mines are used for oil sands deposits that are located near the surface. Overburden is removed from the site and large shovels are used to transport the bitumen off site, roughly 20% of the oil sands deposit can be recovered by this method (Natural Resources Canada, 2013). Once the sand is off site it enters a crushing and separation process. This process results in the bitumen being piped to processing facilities and the remaining solution is left to settle in tailings ponds (Natural Resources Canada, 2013). Approximately 80% of recoverable bitumen will require in situ mining techniques. Typically two wells are drilled with one located slightly above the other. The higher well injects steam, which releases the bitumen from the sands and causes it to flow downward to the second well. The second well then pumps this solution to the surface where it is then sent to processing and upgrading facilities (Natural Resources Canada, 2013).

these mines face unique reclamation challenges because of the landscapes that cover the deposits. The environmental Protection and Enhancement Act defines reclamation for these projects to be any of the following four options:

1) "The removal of equipment or buildings or other structures or appurtenances;" 2) "The decontamination of buildings or other structures or other appurtenances;" 3) The stabilization, contouring, maintenance, conditioning or reconstruction of the surface of land;" 4) "Any other procedure, operation or requirement specified in the regulations."

(Provincial Government of Alberta, 2014).

There are two types of landscapes defining reclamation throughout the oil sands; wet landscapes and dry landscapes. Dry landscape reclamation has a long history in Alberta, and in many cases is now a routine process (BGC Engineering, 2010). For dry landscapes the reclamation process proceeds in the following steps: gathering reclamation material, placing of material on site, forming landscapes, fertilizer application and planting vegetation, monitoring, reclamation certification (Syncrude, 2006; BGC Engineering, 2010). Gathering reclamation material involves returning nutrient rich topsoil to the disturbed site. The common practice is to remove and store these soils off site until the mine is ready to be reclaimed (BGC Engineering, 2010). Once the mining process has been completed the soils are brought back and placed over the disturbed site. Operators will use heavy equipment to design a new landscape on the barren site. After this process is complete native species will be planted on the site and fertilizer will be applied to ensure the successful growth of these plants. The site will then be monitored indefinitely; eventually if standards are met the site will be certified reclaimed (BGC Engineering, 2010). Depending on the site

conditions this process can take decades to complete, and to date there is only one certified reclaimed site within Alberta (Grant et. al. 2008).

Conversely, wet landscape reclamation is relatively new to Alberta. There are no well-defined steps to follow as there are with dry landscape reclamation. Further complicating matters is the high percentage of wet landscapes present throughout the oil sands deposits. This has led to a combined effort between government, industry, and NGOs to conduct research on reclaiming different types of wet landscapes. This collaboration has led to numerous test sites for wetland reclamations; however, there remains a lack of proven methods for reclaiming these disturbed sites. A study conducted by Rooney and Bayley suggests oil sands reclamation in wet landscapes has failed to match the species diversity and functionality of natural wetlands in the region (Rooney and Bayley, 2011). Efforts are ongoing in the oil sands to improve the reclamation of wet landscapes. Government, industry and NGOs are working together to improve this process.

Government, Quasi-Autonomous Agencies, and Non-Government Organizations involved in oil sands reclamation

In Canada, the responsibility to control resources falls on the provincial governments, as stated by section 92A(1) of The Constitution Act, 1867.

However, the federal government does exercise some influence in the oil sands during the construction and operational phases (Howlett and Craft, 2013). This influence is generally expressed through acts including: the Fisheries Act 1985, Canadian Environmental Protection Act 1999, Canadian Environmental

Assessment Act 1999, Species At Risk Act 2002, and Migratory Birds Convention Act 1994 (Howlett and Craft, 2013). Generally the federal influence requires companies to submit plans during permitting, and then continue to monitor and report for the duration of the mining operation in accordance with each federal act. The role the federal government plays in oil sands reclamation is explained in the following quote.

“Given that reclamation certification is a provincial process there were no explicit references to reclamation certificates or legislative requirements pertaining to post-certified projects. In short, those lands that had been certified reclaimed would be subject to federal laws and regulations in a similar manner to any other lands or projects. As more lands are reclaimed the potential role of federal legislation to the post-certification development phase will likely become clearer.” (Howlett and Craft, 2013).

The role the federal government plays in the oil sands is limited to overseeing industry and making sure they adhere to standards set out in the federal acts listed above. As industry continues to reclaim land, and that land is certified reclaimed, the role the federal government decides to play in the post development landscape will become evident. Presently, the amount of land reclaimed is marginal to that which has been mined, see appendix B, and the provincial government of Alberta is directing mining and reclamation in the oil sands.

Alberta has the responsibility to establish legislation and organize agencies to regulate their resources. Historically, industrial reclamation in Alberta has been a combined effort of several departments including: Alberta Environment, Alberta Sustainable Resource Development, Energy Resources Conservation Board, and Natural Resources Conservation Board. Recently,

Alberta has established a single agency to oversee oil and gas regulation, Alberta Energy Regulator (Powter, et. al. 2012).

Alberta Environment and Sustainable Resource Development (AESRD)

The following section will explain the government agencies and NGOs involved in reclamation and reclamation policy in the oil sands. Alberta Environment and Sustainable Resource Development (AESRD) was established through the merger of two government agencies, Alberta environment and Water and sustainable resource development (Provincial Government of Alberta, 2012b). AESRD's mission is to sustain a high quality of life for Albertan's by conducting effective environmental stewardship. AESRD's structure can be broken down into five divisions: Strategy, Policy, Monitoring and Science, Operations, and Corporate (Provincial Government of Alberta, 2012b; Alberta Environment, 2014). The driving forces behind the day-to-day operations of AESRD include: The Environmental Protection and Enhancement Act, The Water Act, and The Climate Change Emissions Management Act. These acts carry with them a series of guidelines and regulations that impact the oil sands and the oil sands reclamation efforts. The Alberta Energy Regulator, a quasi-autonomous non-government organization, recently took on the regulatory and approvals responsibilities from AESRD in the spring of 2014 (AER, 2014).

Alberta Energy Regulator (AER)

The Alberta Energy Regulator (AER) was established in 2012 through the Responsible Energy Development Act, which was part of the government of Alberta's Regulator Enhancement Project. This act granted AER the authority to

make decisions on energy development, monitor and enforce compliance, decommission projects, and be involved in any other energy resource activities approved under provincial energy statutes (Alberta Energy Regulator, 2013)

AER's mission is to create efficient and competitive resource policy development, public consultations, and development regulation. AER president Jim Ellis stated, "the AER is now a full life-cycle regulator: from application and exploration, to construction and development, to abandonment, reclamation, and remediation." (Alberta Energy Regulator, 2014). Additionally, AER aims to support public safety, environmental stewardship, and resource conservation. One of the critical roles of AER is to oversee the oil sands project approvals process. During the approvals process project developers submit plans detailing mine development, potential impacts, and reclamation plans. The following figure outlines the approvals process and illustrates the transition that has occurred between 2012 through 2014.

Table 2.1: EPEA Approvals Process

Step	Action
1	Application
2	Public Notice
3	Consideration of statements and Concerns
4	Decision
5	Appeals

Table 2.2: Approvals Process Authority Pre and Post REDA

Organization	Approvals	Operations	Reclamation
ERCB	Prior to 3-31-14	Prior to 3-31-14	
AESRD	Prior to 3-31-14	Prior to 3-31-14	Prior to 3-31-14
AER	3-31-14 - Present	3-31-14 - Present	3-31-14 - Present

(Hronek and Lawrence, 2014)

All oil sands projects must go through the EPEA approvals process and receive the go ahead from AER before a project can move forward. This process is considered one of the most effective tools, and a critical point within the reclamation process. During the approvals process AER and industry will determine how a mine project and reclamation of that mine project will proceed into the future (Hronek and Lawrence, 2014).

Alberta's transition to a single energy regulator was swift. The process began in 2012, and as of March 31, 2014 the government of Alberta completed the transition. AER is not an official government agency; however, there are strong ties to government, as AER was designed by government and many of the employees at AER came from government.

Former Energy Minister Diana McQueen stated,

“the final integration of the Alberta Energy Regulator is the realization of our goal: to provide regulatory oversight, while also balancing the needs of our environment. Under AER, industry will have regulatory certainty, the right of landowners will be protected, and our environment will remain a top priority.”

(Alberta Energy Regulator, 2014)

The Department of Energy, which includes AER, is tasked with managing Alberta's non-renewable resources, including oil and oil sands resources. The goals of the department include:

1) "Assure energy supply and benefits from energy and mineral resource development for Albertans." 2) "Lead and engage citizens, communities, industry and governments to achieve effective stewardship of Alberta's energy resources." 3) "Lead and support the development of energy related infrastructure, innovation, markets and regulatory systems."

(Alberta Energy, 2013)

The Department of Energy is three agencies: Alberta Energy Regulator, Alberta Utilities Commission, and the Alberta Petroleum Marketing Commission. Alberta Energy Regulator is tasked with regulating all non-renewable resources in Alberta; the Alberta Utilities Commission regulates the utilities sector within Alberta; and the Alberta Petroleum Marketing Commission markets crown conventional crude oil and works to improve market access. All three of these agencies report to the Minister of Energy (Alberta Energy, 2014). However, AER is the only one of these agencies with direct influence in oil sands and oil sands reclamation.

Pembina Institute

The Pembina Institute is a non-governmental environmental protection organization. The institute has offices throughout Canada including: British Columbia, Alberta, Ontario, and the Northwest Territories. Pembina utilizes a multifaceted and collaborative approach to addressing environmental issues in Canada. In Alberta the institute is focused heavily on strengthening oil and gas regulations. The Institute's mission is as follows, "To advance clean energy

solutions through innovative research, education, consulting, and advocacy” (Pembina Institute, 2015). In an effort to achieve this mission the institute focuses on three key areas:

1) “Decreasing energy demand by encouraging energy efficiency and cleaner methods of transportation.” 2) “Promote practical policy approaches for government.” 3) “Advocate the responsible development of Alberta’s oil sands.”

(Pembina Institute, 2015).

A Board of Directors oversees roughly fifty fulltime staff members at Pembina. The multidisciplinary nature of Pembina’s employees is a strong point for the institute. Pembina works closely with government and non-government agencies in Alberta to influence environmental policies. Their vision is, “ A world in which our immediate and future needs are met in a manner that protects the earth’s living systems; ensures clean air, land and water; prevents dangerous climate change; and provides for a safe and just global community” (Pembina Institute, 2014). Pembina is one of the more influential and important environmental NGOs involved in Alberta’s oil sands.

Canadian Association of Petroleum Producers (CAPP)

The Canadian Association of Petroleum Producers (CAPP) is an association comprised of companies who produce petroleum and natural gas. Their mission is to enhance economic sustainability for the Canadian petroleum industry, while at the same time operating in an environmentally and socially responsible manner. Their goal is to accomplish this through consistent communication with the government, stakeholders, and communities. Revenues from industry associated with CAPP contribute roughly \$110 billion in revenues for Alberta per

year (Canadian Association of Petroleum Producers, 2014). CAPP is directed by a Board of Governors who are selected by CAPP member companies. There are also roughly 80 staff members working within CAPP as economists, engineers, communicators, accountants, political scientists, lawyers, and administrators. The goals CAPP has laid out are directed at furthering the petroleum industry throughout Alberta, their goals include: work to improve environmental health and safety while maintaining strong industry, increase market access and growth, pursue fiscal regime that enhances the economic well-being of the petroleum industry, build efficient regulatory framework that is cost effective, and work with government and public (Canadian Association of Petroleum Producers, 2014).

Cumulative Environmental Management Association (CEMA)

CEMA is a leading multi-stakeholder organization that is actively advising Alberta's oil sands reclamation. CEMA advises both the provincial and federal government on the cumulative effects of regional development. A number of working groups have been established to address air, land, water, and reclamation. Over fifty members of CEMA actively participate in developing recommendations for government within the region. CEMA's members originate from a diverse set of backgrounds including: government, quasi-autonomous non-governmental organizations, non-government organizations, aboriginal groups, and industry. CEMA's role in the oil sands is, "to produce recommendations and management frameworks pertaining to the cumulative impact of oil sands development in North-Eastern Alberta, which are, once

complete, forwarded to the Provincial and Federal government regulators”
(Cumulative Environmental Management Association, 2014).

Wood Buffalo Environmental Association

The Wood Buffalo Environmental Association (WBEA) is a collaborative group consisting of communities, environmental groups, industry, government, aboriginal communities, and other stakeholders. The WBEA dates back to 1985 when First Nation communities in the Fort McKay region expressed concerns about the environment (Wood Buffalo Environmental Association, 2014). The government of Alberta responded by establishing a task force, which then expanded into the Regional Air Quality Coordinating Committee (RAQCC). In 1997 the RAQCC was reformed and became the Wood Buffalo Environmental Association (Wood Buffalo Environmental Association, 2014). The WBEA’s mission is to produce accurate and discernible information, which will allow stakeholders to make informed decisions. The WBEA also carries out monitoring efforts that are used to assist the AER in regulating industry. The WBEA has worked to facilitate dialogue between stakeholders by hosting open houses, sending out newsletters, speaking on various media outlets, and being active in Alberta’s schools. This association relies on a governance committee whose members stem from industry, government, NGOs, and local communities⁴. The

⁴ The WBEA contains perhaps the largest collaboration of oil sands stakeholders, the WBEA states their members include, “Alberta Energy Regulator, Alberta Environment & Sustainable Resource Development, Alberta Health Services, Alberta Health & Wellness, Athabasca Oil Corporation, Brion Energy, Canadian Natural Resources Ltd., Cenovus Energy, Chipewyan Prairie Dene First Nation, Christina River Dene Nation Council, Conoco Phillips Canada, Devon Canada Corp, Environment Canada, Finning, Fort McKay First Nation, Fort McKay Metis Local 63, Fort McMurray Environmental Association, Fort McMurray First Nation 468, Fort McMurray Métis

WBEA and First Nation communities in general are important actors in Alberta's oil sands. The WBEA is the largest multi-stakeholder collaboration in the oil sands and plays a critical role in the multi-stakeholder discussion, as well as assisting in environmental monitoring in the region (Wood Buffalo Environmental Association, 2014).

The role of NGOs in Oil Sands Reclamation Policy

The government of Alberta has acknowledged the value of NGOs within reclamation policy and the overall policy conversation. From the 1990s through present day there has been an increasing number of NGOs involved in the policy conversation. Multi-Stakeholder groups, including CEMA and WBEA, have improved NGO access to government decision makers. NGOs are distinct in how they go about influencing the policy conversation, their ability to influence policy, and their attitudes towards government and industry. NGOs play a diverse set of roles in their attempt to influence the policy process, including: government watch dogs, data analysts who publishing articles, advocates for communities and under represented populations, and consultants or advisors for government and industry. NGOs are an integral part of the democratic process within Alberta (Evans and Shields, 2014). The government of Alberta has acknowledged the importance of multi-stakeholder involvement in the policy process. Stakeholder input is meant to be an important piece of Alberta's

Local 1935, Hammerstone Corporation, Health Canada, Husky Energy, Imperial Oil, MEG Energy, Nexen Inc., Parks Canada, Pembina Institute for Appropriate Development, Regional Municipality of Wood Buffalo, Saskatchewan Environment, Shell Albian Sands, Statoil Canada Ltd., Suncor Energy Inc., Sunshine Oilsands Ltd., Syncrude Canada Ltd., Teck Resources, Total Canada, and Williams Energy." (Wood Buffalo Environmental Association, 2014)

land use framework and regional plans. Additionally, improving stakeholder access is a primary goal for several of Alberta's government agencies and quasi-autonomous agencies. However, questions surrounding the true impact and access these organizations have been granted is the subject of several studies.

In 2008, The Pembina Institute withdrew from the cumulative effects management association (CEMA). After eight years as a member Pembina claimed, "CEMA has lost all legitimacy as an organization and process for environmental management in the oil sands" (Pembina Institute, 2008). Pembina cited the government of Alberta repeatedly undermined and disregarded the recommendations provided by multi-stakeholder organizations.

"The Alberta government has taken a 'talk and drill' approach to developing the oil sands. It has squandered an opportunity to get effective environmental management in place ahead of serious on-the-ground cumulative impacts. Now it must play catch up" said Chris Severson-Baker, Policy Director at Pembina Institute and former CEMA Board Member" (Pembina Institute, 2008).

Pembina went on to recommend a series of solutions for multi-stakeholder environmental management, including: suspend approvals until limits and management systems are in place, develop science-based environmental limits, prevent industry from dominating multi-stakeholder conversations, and increase government decision maker participation in multi-stakeholder conversations (Pembina Institute, 2008). Simon Dyer, oil sands program director at Pembina, stated, "To restore credibility and legitimacy with stakeholders the Alberta Government must acknowledge that the current approach is fundamentally broken" (Pembina Institute, 2008).

Multi-stakeholder involvement in the oil sands has evolved since 2008, and while some of the concerns expressed by Pembina have been addressed others remain unresolved. The close working relationship between government and industry is one factor inhibiting NGO access to decision makers, and therefore limiting their influence on the reclamation process. Hoberg and Phillips conducted a study in 2010 on powerful policy actors within the oil sands, and explored how these actors defend themselves against critics. The relationship between government and industry is an important aspect of this study. These two policy actors have established a relationship in which they both benefit from enhancing the regulatory environment, introducing new technologies into the oil sands, and bringing increased investment to the region (Chastko, 2004; Hoberg and Phillips, 2010). The benefits of this arrangement are perhaps better stated in a quote from Hoberg and Phillips article,

“This policy monopoly ushered in an era of explosive oil sands development: existing and new project applications increased, vast sums of investment poured in, and all the while the closed government-industry governance cycle continued to dominate.” (Hoberg and Phillips, 2010).

This statement is referring to the government and industry relationships that resulted in a rapid expansion within the oil sands in the 1990s. The government and industry relationships remain in place today; however, the government of Alberta has also looked to increase stakeholder involvement outside of industry. Such initiatives can be observed in Alberta’s land use framework, regional plans, AER’s goals, and various government agency goals. Increasing stakeholder involvement is important for Alberta, because the

industry is forecasted to experience significant growth through 2030. Future projections for oil sands production can be observed in Figure 2.1 and Table 2.3. The projections for daily production call for exponential increase in production to continue over the next several decades.

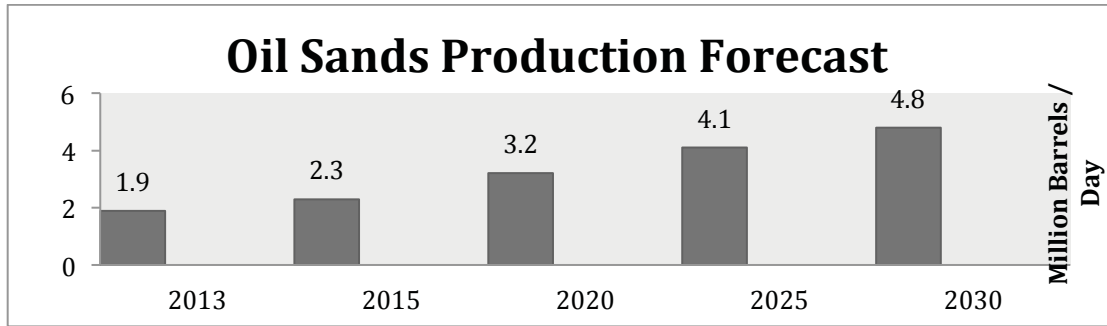


Figure 2.1: Oil Sands Production in Million Barrels per Day: This figure illustrates the projected increase of production in the oil sands from 2013 through 2030 (Anderson, 2014).

Table 2.3: Oil Sands Production in Million Barrels per Day

Year	2013	2015	2020	2025	2030
Oil Sands	1.9	2.3	3.2	4.1	4.8

(Anderson, 2014)

In the mid 2000s NGOs spoke out against this rapid development and brought attention to the environmental impacts associated with such an extreme expansion. The reports produced by these organizations gained traction with the public and forced government and industry to pursue a strategy engaging multi-stakeholder consultation (Hoberg and Phillips, 2010).

“Environmental groups and, to a lesser extent, aboriginal groups have succeeded in shifting the government agenda to elevate the importance of environmental issues. But thus far, the defensive strategies of the

industry and the provincial government have been effective at maintaining control over the policy venue” (Hoberg and Phillips, 2010).

This statement acknowledges that multi-stakeholder involvement has increased through the 2000s. Despite government’s attempts to be more inclusive these stakeholders have been limited in their participation. This dynamic has resulted in multiple NGOs expressing concerns directed at their access to decision makers and their ability to influence the reclamation process (Pembina, 2008). Stakeholders, and especially those opposing the views of industry, feel disenfranchised by the current state of consultation for reclamation in Alberta’s oil sands.

Chapter 3: Literature Review

Canada has long been the focus for a robust series of research targeted at policy work, policy capacity, policy advice, and evidence based policy-making. Within this literature review several studies will be discussed and reviewed. Trends and common findings for these studies will be brought forth and discussed with relevance to reclamation policy within Alberta's oil sands. Additionally, the role policy work, policy capacity, policy advice, and evidence-based policy making have in developing and executing reclamation policy will be explained and the criticisms surrounding these strategies will be discussed. This section will provide a complete background of policy capacity and evidence-based policy making in Canada, and more importantly, explain how these concepts apply to the current policy conversations taking place in Alberta's oil sands.

The initial step to understanding this literature is to break down policy capacity and derive meaning from this concept. Policies are objective driven initiatives designed to solve specific 'problems.' It should be assumed that rational authorities develop policies and structure them to achieve a known result (Barnett and Shore, 2009). Policy professionals are also relied upon to develop and sometimes enforce policy. What can be inferred then is that policy capacity is the infrastructure supporting policy professionals as they develop and enforce policy (Evans et. al., 2011). When capacity is referred to in this research it is in reference to the resources available to policy professionals to conduct their jobs, both financial capital and human capital. Different resources

are required throughout the policy process to ensure policy work can achieve the desired results. Policy capacity is both the quality and quantity of resources available to individuals involved in the policy process (Howlett, 2009).

The common understanding of the policy process will flow as follows: problem identification, data collection, problem reviewed, advice provided to policy maker, policy implemented (Colebatch, 2006). Similar models break down policy work into four steps: analyzing, decision-making, implementing, and evaluating (Barnett and Shore, 2009). Both policy flows portray a similar process beginning with a problem and moving through multiple steps until an informed solution has been reached. A hypothetical policy is considered to be within the analyzing phase from the time a problem has been identified until a series of potential responses are developed. Following this phase will be the decision-making phase; at which time multiple solutions are drafted and then measured against one another until the best response has been identified. Policy capacity and the use of evidence-based techniques are critical in the analyzing phase. After policy workers have identified the best response, a policy enters the implementation phase, where it is set into action. The final phase is policy evaluation; during this phase a policy is assessed and measured to ensure it is producing the desired pre determined outcome (Barnett and Shore, 2009). This step-by-step explanation of policy work should actually be thought of as a cyclical relationship or “policy cycle” (Wu et. al., 2010). This relationship is a dynamic interaction, a policy might move through the cycle several times before it has reached the design to achieve the desired outcome. When policy workers

involved in this cycle are well supported and fully informed the policies produced are likely to be successful. The success of these policies can then be associated with high levels of policy capacity.

The ability an agency has to mobilize resources for diverse public initiatives is directly tied into that agency's policy capacity (Howlett, 2009). Policy capacity can also be observed by the manner in which an agency navigates the policy cycle. The ability to anticipate and respond to changing conditions, evaluate current activities to inform future policy, develop programs to implement policies, and manage resources; are factors that would indicate an agency has a high level of policy capacity (Wellstead and Stedman, 2010). For an agency to demonstrate high policy capacity they require highly skilled employees with the foresight to assess policies while keeping future implications in mind. Any organization striving to retain a high level of policy capacity will also provide their employees opportunities to advance their skills and knowledge. For agencies with limited funding that cannot support a large staff using consultants is a cost effective method for increasing policy capacity. NGOs are frequently used as consultants by government in Alberta, in doing so the NGO is relied on to provide the capable staff and knowledge base. By utilizing the consultation process the end product is the same, however, government agencies are able to conserve limited resources by relying on outsider expertise to conduct research for them (Howlett, 2009).

Research conducted by Wellstead and Stedman in 2010 suggested Canadian agencies that expressed higher levels for policy capacity were less

likely to experience a policy failure, “ensuring strong policy capacity based within a public service is a critical factor in avoiding policy failure” (Wellstead and Stedman, 2010). However, policies cannot always be categorized successes or failures, and often the results exist somewhere along the spectrum. Government goals can also be ambiguous and secretive; further complicating matters is the fact that policies will be interpreted differently across political and social lines. Therefore, it is not always appropriate to focus on policy success or policy failure (McConnell, 2010). Although, having higher policy capacity will limit an organizations exposure to policy failures. This is because these organizations will be able to conduct more research; they will have a staff capable of applying statistical methods and techniques to assess policies and public opinion; and they will be capable of anticipating future policy implications (Howlett, 2009). Measuring policy capacity can reveal whether an organization has the ability to implement and enforce policy, and for this reason research surrounding policy capacity has gained significant momentum from the 1990s through the present (Evans and Wellstead, 2013).

Developing Indicators for Policy Capacity in Alberta

In 2010 Wellstead and Stedman developed a theoretical framework for perceived policy capacity in Canada. Their paper suggested key elements required to establish strong policy capacity which included: policy units increase perceived policy capacity; policy professionals assigned tasks associated directly with policy work will view themselves as contributing to policy capacity; individuals working on long-term policy issues will view their policy capacity as

higher than those addressing 'fire fighting' type tasks (Wellstead and Stedman, 2010).

Wellstead and Stedman's research, in 2010, also indicated the attitude with which a policy professional viewed the policies they are tasked with overseeing had a significant impact on their perceived policy capacity. Furthermore, Wellstead and Stedman's 2010 survey provided multiple factors outside of what policy-based employees directly do in their work, which impacted their perceived policy capacity. The presence of formal policy units is an example of such a factor. Although it was noted that highly engaged street level employees were less likely to be members of these formal policy units, and this reflected a potential absence of true policy experience and expertise within these policy units.

The most significant contributor to perceived policy capacity was, in fact, determined to be policy worker attitudes' towards the state of governance in Canada (Wellstead and Stedman, 2010). This conclusion aligns with Meltsner's previous work on the topic of policy capacity where he stated, "work responsibilities along with the attitudes and beliefs of an analyst play an important role in determining policy capacity" (Meltsner, 1976).

In 2011, Evans et. al. examined the state of policy capacity in Canada, and presented a general assessment of policy capacity and shifting policy work throughout the Canadian government. Their data was obtained by conducting a survey of 466 senior public servants working within the Canadian federal, provincial, and territorial governments (Evans. et. al. 2011). The population

targeted for this survey was individuals who experienced and regularly engaged in government policy work. The survey results revealed several important facts about policy capacity throughout Canada. The survey determined many departments had in fact increased in size, yet there remained a need for further staffing. This aligns with Howlett's observations in 2009, concerning expansions and growth of policy capacity within Canadian agencies from the 1990s through the present (Howlett, 2009). In Evans et al. 2011 survey a common belief expressed by senior public servants is that policy professionals within government agencies lacked technical expertise (Evans et. al. 2011). Evans et. al. recommended an increase in staffing within the Canadian government, and listed staffing as one of the factors detracting from the government's policy capacity (Evans et. al. 2011). Staffing is within the human resources category of capacity, and without adequate staffing it is increasingly difficult for an agency to effectively conduct policy work. Evans et. al. 2011 survey also revealed that the concern which surrounded staffing was not solely about numbers. In fact, respondents expressed more concerned towards the lack of expertise amongst policy professionals. Several respondents felt there was a need for improved policy training and education for employees. Policy development courses, project management, and mentoring were the primary forms of training available to employees within the agencies (Evans, et. al. 2011). Increasing the availability of these training resources would improve expertise in government agencies and reduce the need for increased staffing.

Evans et. al. suggested another method for improved capacity in their 2011 study, they recommended policy workers follow longer timelines throughout the policy process. This has been proven as an effective strategy for enhanced policy research and evidence-based policy-making (Evans et. al. 2011). Survey respondents expressed the policy related work they conducted was primarily directed towards short term or 'fire fighting' activities (Evans et. al. 2011). This was reiterated by the research conducted by Wellstead and Stedman in 2010, where they concluded that 'fire fighting' tasks reduced policy capacity within an agency. Survey respondents in the 2011 Evans et. al. study, revealed long-term and politically neutral policy issues were often secondary priorities. This is a concern for agency capacity, because the ability to balance short-term tasks with long-term policy objectives is essential for an agency to be effective and balanced (Lindquist and Desveaux, 2007). This balance is critical for policy capacity within any agency, and Evans et. al. have highlighted the fact that agencies spent significantly more time focused on the short-term tasks. If more resources were dedicated to research and long-term policy then policy capacity would be increased (Evans et. al. 2011). Evans et. al. 2011 survey study also found many senior policy professionals believed policy capacity within their agency had increased, as did their use of evidence-based techniques in policy-making.

In conclusion, Evans et. al., 2011 called for further investigation into how policy staffs are supported, because this support was directly correlated to policy capacity. Forms of support to be investigated include, "staffing, financing,

training & education; how they think their policy work could be enhanced; and their insights on how the world of public policymaking is changing” (Evans, et. al. 2011). Senior policy professionals viewed the state of policy capacity as improved, yet they also pointed out several areas where policy capacity throughout government could still be improved.

Policy research and the use of evidence-based strategies was an area that survey respondents in Evans et. al. 2011 survey suggested could be improved. This was also determined to be an area where Alberta could improve policy capacity by Wellstead and Stedman, 2010. One way to accomplish was to enlist the help of university based research groups, NGOs, and federal research groups (Wellstead and Stedman, 2010). When public servants received a higher quality and quantity of data, or advice, they were able to draft better policies. Additionally, when these public servants had the available resources to effectively implement policies the rate of success increased.

Wellstead and Stedmans’ 2010 research found perceived policy capacity for regional government employees, as well as street level bureaucrats, was not as high as anticipated. The emerging trends observed in Canadian policy capacity include: expertise is declining within government; policy options are becoming too distant from actualized on the ground efforts, which created issues in the implementation phase; and there was an over emphasis on internal reporting. (Cote et. al., 2007; Wellstead and Stedman, 2010).

Another important aspect of this thesis sets out to explain the interaction of government and non-government agencies. In 2013, a study conducted by

Evans and Wellstead explored the various methods government and non-government organizations used to influence policy. While both organization types had agency in policy, they were distinct in their approaches to policy work (Evans and Wellstead, 2013). In an effort to influence policy, NGOs were typically required to campaign to raise awareness for the specific issues they hoped to influence. NGOs also influenced the policy-making process by proposing solutions, soliciting advice to government, and acting as consultants (Stone, 2001). There were two dominant strategies in which NGOs attempted to impact policy, they are known as “Insider” and “Outsider” strategies (Gubrandsen and Andresen, 2004). The “Insider” strategy attempted to influence policy through direct contact with government; in this situation NGOs would provide policy options or expert advice to the government. This would be an NGO that proposed a policy solution to a government agency or one that acted in a consulting capacity. The “Outsider” strategy was an indirect strategy; NGOs who used this strategy relied on campaigning to influence public opinion to bring about policy change (Gubrandsen and Andresen, 2004; Evans and Wellstead, 2013). NGOs who attempted to utilize the outsider strategy relied on swaying public opinion and by doing so pressed the government to react in a desired fashion.

In 2013, Evans and Wellstead designed a study to explore the methods NGOs and government agencies used to conduct policy work. The goals of the study were to reveal who contributed to policy work, what interactions might exist between government and outside entities, and what tools were being used

to affect policy (Evans and Wellstead, 2013). The areas of policy capacity used to explore these variances included: policy network environment, human inputs, and information inputs (Evans and Wellstead, 2013; Edwards, 2009). In 2013, Evans and Wellstead developed two surveys for this research; one was distributed to government employees and the other to NGOs.

“Both surveys addressed the nature and frequency of the tasks, the extent and frequency of their interactions with other policy actors, and their attitudes towards various aspects of policy-making processes, as well as questions addressing their education, previous work, and on-the-job training experience. Both also contained standard questions relating to age, gender, and socioeconomic status” (Evans and Wellstead, 2013).

The results described both groups to be highly educated, though a higher percentage of government employees held professional and graduate degrees. The results of Evans et. al. 2011 echoed these observations, and noted the high level of academic achievements present throughout within the Canadian government. Individuals employed by NGOs were found to be older on average, have longer tenure in their present positions, and have a greater desire to remain with their current organization (Evans and Wellstead, 2013). The presence of large policy units and degree of specialization varied between government agencies and NGOs. There appeared to be a significant focus on research within government agencies, as well as a strict structure to which employees adhere (Evans and Wellstead, 2013). NGOs displayed less of a focus on research, and employees viewed themselves as generalists responsible for a range of tasks (Evans and Wellstead, 2013). Another notable result within this article was the perception with which each agency type viewed their interaction

with the other. NGOs viewed their interaction with the government as a formal one. While at the same time government viewed this same interaction as less formal. This contrast in opinions is important and explained the overall policy advice network in Alberta's oil sands.

Policy capacity for government agencies was viewed to be greater than that of NGOs, which is not surprising as policy capacity is associated with resources. The size of policy units and support government agencies had, were also strong factors that contributed to government agency policy capacity. A pattern emerged that showed policy units were closely associated with higher levels of policy capacity (Evans and Wellstead 2013). The tasks carried out by workers within each agency type also factored into their overall capacity. The primary focus for government employees was to brief mid-level managers, while the primary function of NGO employees was to consult and act as stakeholders (Evans and Wellstead, 2013). These tasks factored into policy worker attitudes, which inevitably influenced agency capacity. Attitudes related to tasks were generally positive for NGO workers while government employees expressed less enthusiasm for their work (Evans and Wellstead, 2013).

For multi-stakeholder involvement to be successful government and NGOs need a greater dialogue.

“This may well speak to the need for a more formal and institutionalized environment to facilitate a better dialogue between both sides of each policy community to better deliberate with one another, if that is a genuine objective” (Evans and Wellstead, 2013).

In 2014 Evans and Shields examined the policy voice of Canadian NGOs. In contrast to previous studies these researchers used 31 semi-structured interviews with NGO employees and mid-level government employees (Evans and Shields, 2014). The interviews targeted the role and place of NGOs within immigration and settlement policy (Evans and Shields, 2014). While this particular research project was aimed at immigrant settlement services in Canada many of the policy issues faced by NGOs in this study also pertain to NGOs participating in oil sands reclamation.

Evans and Shields defined two types of consultation that occur between government and NGOs. The first can be understood as straightforward information gathering by government to develop and inform policies. The second type of consultation occurs when decisions have already been made by government prior to the consultation process; in which case the consultation is more of an information gathering session to understand possible obstacles and opposition to the policy (Evans and Shields, 2014). Government employees acknowledged that sometimes these consultations are used to inform government officials and are not factored into policy development (Evans and Shields, 2014). Evans and Shields acknowledged this phenomenon in their research.

“In the NGO view, most decisions have already been made prior to their becoming engaged in the process” (Evans and Shields, 2014).

Although, government employees described consulting with NGOs as an important aspect in the policy process. Government employees acknowledged

that NGO employees, due to their street level positions⁵, are preview to information the government is not (Evans and Shields, 2014). Therefore, by consulting with such groups the government is able to avoid knowledge gaps.

“Nonetheless, all sides still see value in NGO- government consultation as it keeps lines of communication open, government policy officials receive important information on newcomer communities and their settlement and integration, and NGOs can have important impacts in shaping program design and delivery at the operational level.” (Evans and Shields, 2014).

This study explained that NGOs played an important role, and also impacted the policy process in Canada. Evans and Shields note, when NGOs cooperated as one entity to consult with government they increased the effectiveness of their efforts. This established a unified front, which allowed the government to work with one group. When multiple NGOs combined their efforts to consult on a single cause they increased their capacity to impact policy decisions (Evans and Shields, 2014). Evans and Shields concluded, government consulting with NGOs resulted in very limited opportunities to impact policy (Evans and Shields, 2014). This aligned with Howlett’s 2009 findings from on NGO capacity.

“Current evidence suggests that, with the possible exception of some major Canadian business association and corporations (Stritch, 2007), capacity in non-governmental sector is very limited” (Howlett, 2009).

⁵ Street level positions are those that require workers to interact directly with citizens. Individuals working in street level positions are directly involved in implementation of policy, these workers have tremendous utility as to how the execute their work (Lipsky, 2010). An example of street level bureaucrats as defined by Lipsky are, “Public employees who grant access to government programs and provide services within them.” Examples include: teachers, law enforcement officers, social workers, judges, health workers, and other public employees (Lipsky, 2010).

Many NGOs retain the opinion government arrives at decisions prior to NGO involvement in the consultation process. However, NGOs continue to work with the government and are collectively pursuing strategies to enhance the NGO voice (Evans and Shields, 2014). These measures include: forming umbrella organizations to collectively advocate policy, increase focus on research, and consulting with academia to improve ability to follow evidence-based strategies (Howlett and Newman, 2010; Evans and Shields, 2014).

The assessment for the NGO policy voice was found to be limited for immigration and settlement policy. There were several constraints on NGO policy voice as a result of government actions (Evans and Shields, 2014). Yet NGOs displayed an ability to adapt and develop new strategies to enhance their ability to bring evidence-based policy suggestions to the table during government consultations. In order to increase policy expertise it was important for NGOs to have involvement prior to the decision making stage. When government limited the input from NGOs the entire policy process suffered as a result. NGOs provided helpful policy expertise and on-the-ground experience (Evans and Shields, 2014).

Several patterns for policy capacity in Canada emerge after reviewing the studies and literature on policy capacity. Both structural and social factors impact the policy capacity for government and non-government organizations in Canada. The individual policy worker is an important piece for the overall policy capacity. Additionally, the opinions of individual employees play a critical role in determining policy capacity. Policy units dedicated to solving specific problems

are also essential for enhancing an agency's policy capacity. Allowing policy workers to conduct research and focus on long-term projects enhances perceived policy capacity. Conversely, addressing 'fire-fighting' issues decreases policy capacity. Current trends suggest 'fire-fighting' activities make up the primary focus of policy workers throughout Canada. The overall sense of policy capacity within Canada suggests it has been slowly increasing. However, as the literature explains, there are several areas within government and non-government organizations where policy capacity can be enhanced. For this to be achieved Government and NGOs must improve their working relationship and focus on the common end goal.

Evidence-Based Policy Making and its Relevancy for Policy Capacity

Evidence-based policy making has become common practice for government in Alberta. This methodology places an emphasis on decision-making based on sound and reasonable evidence. Evidence can be thought of in two typologies: the first type is used to assess the potential effectiveness of policy options and is used to inform new policy; the second is evidence collected from current policies and is used to adjust and improve current policy (Sanderson, 2002).

“The ideal model of evidence-based policy making is predicted upon certain assumptions relating to: the nature of knowledge and evidence; the way in which social systems and policies work; the ways in which evaluation can provide the evidence needed; the basis upon which we can identify successful or good practice; and the ways in which evaluation evidence is applied in improving policy and practice” (Sanderson, 2002).

There are several variables factoring into the ability for any policy regime to effectively use evidence-based methods, and in many ways these variables also factor into policy capacity.

“Organizations both inside and outside of governments require a level of human, financial, network, and knowledge resources enabling them to perform the tasks associated with managing and implementing an evidence-based policy process” (Howlett, 2009).

This illustrates how policy capacity and evidence-based policy making are interconnected. While the initial introduction of evidence-based policy making can increase stresses in certain areas of the policy process, it also decreases stresses in other areas. Agencies that don't display the internal capacity to collect and analyze data will rely on external agencies or NGOs to assist by providing data or consulting. This supports the establishment of larger policy advice networks, which would also increase capacity.

One resource that is essential for effective evidence-based policy making is employee knowledge and policy experience. Policy workers rely on the collection and application of sound data in the policy making process. The consultation of multi-stakeholder groups is an important aspect of this informed decision-making process. These diverse organizations bring a broader range of expertise and experience to the decision-making process. This evidence will inform the policy process primarily through two avenues: by forming new policy and by enhancing the effectiveness of current policy.

Further support for the involvement of NGOs as consultants in the evidence-based policy making process comes from several studies focused on

Canadian government agencies. These studies acknowledged a lack of “on-the-ground” personnel involved in government agency policy units (Wellstead and Stedman, 2010; Evans et. al. 2011). The lack of “on-the-ground” personnel involved in policy units indicates a need for consultants and multi-stakeholder groups to reduce government knowledge gaps (Wellstead and Stedman, 2010). This can be understood as evidence-based policy making in action. The logic behind empowering multi-stakeholder groups is to allow these diverse parties to present their beliefs, policy solutions, and experience to raise the overall policy expertise. If this is carried out prior to a decision being made by government then knowledge gaps are removed before the decision making process. This design is meant to ensure the best policy solution is reached; that stakeholders have bought into the policy solution; and that there is overall support for the policy solution.

Whether this is actually achieved by introducing evidence into the policy cycle is a contested issue (Howlett, 2009; Head, 2010). In fact, several arguments have been constructed against the use of evidence-based policy making, citing it does not actually enhance policy efficiency or effectiveness. Kogan 1999, and Sanderson 2002, have argued separately the use of evidence in policy making cannot overcome certain structures and divisions of powers present in the policy making process. Furthermore, they have argued government tends to acknowledge evidence-based policy making only when the evidence supports their current priorities (Kogan, 1999; Sanderson, 2002). This particular critique of evidence-based strategies is concerned with the power dynamics that exist

between government, industry, and NGOs. Conversely, research conducted by Howlett, in 2009, combatted these claims by explaining power structures and barriers exist with any form of policy making and they are not unique to evidence-based policy making (Howlett, 2009). Therefore, these are not sound arguments against the use of evidence-based strategies, because these arguments could be applied to any strategy.

Policy Advice in Evidence-Based Policy Making

Policy advisory capacity is a concept intertwined in evidence-based policy making and policy capacity. In 2012, Tiernan examined the policy advisory capacity for six policy sectors in Australia's public service. Her research targeted Australia's public service and their ability to, "support decision-making through the timely and responsive provision of quality information, advice and options at all stages, including implementation and service delivery" (Tiernan, 2012). The research focused on four criteria, "activity, function, reformist, and research focus (Tiernan, 2012). Tiernan's article references research conducted by Howlett and Oliphant, in 2010, where they examined the ability of government and non-governmental organizations to produce policy relevant research (Tiernan, 2012).

Technology has allowed modern government to access a wider range of data, or evidence, than ever before. This evidence is being generated by an ever expanding network of government agencies, think tanks, consultants, NGOs, policy researchers, academia, and other stakeholders (Tiernan, 2012). In 2014, Wesselink, Colebatch, and Pearce conducted a literature review of evidence-

based policy making, their study shares several insights for policy advice within evidence-based policy systems. Evidence-based policy making by label appears a straightforward concept. Policy workers conducting due diligence in program design and implementation is what citizens expect from government. Although, the process becomes increasingly complex when considering the number of actors, the various views held by stakeholders, and sources of evidence presented by stakeholders to government. Therefore, it becomes important to understand evidence within the framework that it is presented (Wesselink, Colebatch, and Pearce, 2014).

In 2012, Craft and Howlett attempted to establish a new model for policy advisory systems.

“An interlocking set of actors, with a unique configuration in each sector and jurisdiction, who provided information, knowledge and recommendations for action to policy-makers” (Halligan, 1995; Craft and Howlett, 2012).

This advisory system is comprised of key actors within the policy cycle. These advisory roles have been studied for decades, but Craft and Howlett point out little is still known about NGOs acting in advisory and consulting capacities (Craft and Howlett, 2012).

“The growing plurality of advisory sources and the polycentrism associated with these governance shifts challenge the utility of both the implied content and the locational dimensions of traditional models of policy advice systems. A revised approach is advanced that sees influence more as a product of content than location”(Craft and Howlett, 2012).

Previous models for policy advice systems assessed whether the advice presented to decision makers originated inside or outside of government; as well

as, whether the advice was political or technical in nature (Craft and Howlett, 2012). Locational models for policy advice systems are concerned with where information originates. Actors within these advisory systems are said to exist within a three-tiered hierarchy. Tier one includes those individuals directly involved with decision-making, and who have the capacity to make policy decisions. Tier two consists of academia and other research institutes who produce data. Tier three is made up of both government and non-government specialists who operate between the data producers and the decision makers (Sundquist, 1978; Lindvall, 2009; Craft and Howlett, 2012). The general feel for this model is inside actors have more control in soliciting advice to decision makers when compared to outside actors. This echoes an issue addressed in the evidence-based discussion, which suggested certain power dynamics surrounding policy prevent weaker stakeholders from contributing advice. Wesselink et. al. reiterated this concern as they discussed how evidence citizens, or outsiders, introduce to debates is often viewed as lower in the evidence hierarchy. The design of evidence-based policy making in certain instances has disenfranchised outsiders and reaffirmed the importance of professionals and experts (Wesselink, Colebatch, and Pearce, 2014).

Craft and Howlett submit the locational model for policy advice systems is useful; however, they also suggest content is just as important in determining the influence of policy advice and advisors (Craft and Howlett, 2012). While the older models resembled a, “speaking truth to power” dynamic, policy advice now commonly originates both within government and outside governmental

organizations (Craft and Howlett, 2012). Craft and Howlett suggest a content based policy advice model would be more accurate than a location based model. The content based model separates advice into substantive advice and procedural advice. Substantive represents policy formulation and implementation activities. Procedural represents political and communication type activities (Craft and Howlett, 2012). Craft and Howlett go one step further and separate policy advice into, “Hot advice” and “Cold advice.” Hot advice represents a short-term problem in need of a solution, this is typically a partisan issue, reactive, secretive, and opinion based (Craft and Howlett, 2012). Cold advice is based around long-term solutions, is anticipatory in nature, represents an open process, and uses research (Craft and Howlett, 2012).

“Adding the content dimension to policy advisory systems in the form of a focus upon their substantive vs procedural and “hot” vs “cold” dimensions adds the specificity missing in locational model considerations of influence. And it improves on earlier models imbued with an implicit dichotomous “politics vs administration” differentiation by categorizing policy advice more precisely as it relates to either substance, or process of policy-making and to its short-term vs long-term nature” (Craft and Howlett 2012; Svava, 2006)

Craft and Howlett are suggesting the content model is an improvement upon the location model for understanding policy advisory systems. They submit as governments move forward with evidence-based policy there are an increasing number of actors soliciting advice to decision makers. The content model is better suited to explain advisory systems and can show government moving from command and control type management to more collaborative stakeholder friendly governance strategies (Craft and Howlett, 2012).

This literature review has covered a range of topics related to policy capacity. Initially by explaining policy capacity as a measure of resources, and then describing how advisory networks and evidence-based strategies influence capacity. Additionally this review should have displayed how and why policy capacity can and should vary between agencies working within oil sands reclamation policy. The resources composing policy capacity, as well as, the networks and evidence-based strategies that strengthen policy capacity were all taken into account during the development of interview scripts.

Chapter 4: Research Methods

Chapter four lays out the steps to complete an interpretive policy analysis of oil sands reclamation policy. This analysis includes interviews, observations, and a literature review (Fischer and Forester, 1993). The development of interview scripts, as well as the actual completion and analysis of the interviews will be discussed in this section. The primary themes and factors for policy capacity will also be laid out in table format.

The initial step in conducting this interpretive analysis was to review the literature surrounding oil sands and oil sands reclamation. This included, government documents, journal articles, university studies, newspaper articles, and several other forms of documentation related to oil sands reclamation policy. These documents established a foundation to build a framework for the policy analysis. The review process highlighted which organizations had agency in the oil sands reclamation process and illustrated the policy network of interest for this research. A list of key organizations was compiled and the individual structures for each organization were investigated. The structures were then used to identify the critical policy workers within each organization. This process produced a list of several senior level employees across a number of organizations to act as key informants. These individuals were determined to be experienced in reclamation policy, or they held positions that would allow them to speak of their agency's policy capacity, understanding of reclamation policy, and involvement in oil sands reclamation.

After a list of agencies and key informants was finalized, the next step determined how to go about collecting data from these agencies. The two apparent methods for data collection included, survey based data collection and interview based data collection. There have been several studies on policy capacity in Canada that have used survey based methods. Although, these studies have failed to explain the interactions and relationships associated with policy capacity. These studies have been limited by the structure of surveys, or by the populations selected for participation. One of the unique aspects of this project is the focus on government and NGO interactions within oil sands reclamation policy. For this reason this research followed an interpretive policy analysis approach, and used semi-structured interviews of key informants, literature reviews, and observational data. The aim of this analysis is to submit a unique contribution to policy capacity research, as well as, the oil sands reclamation policy network.

Once the approach for data collection was determined, emails were sent to the list of key actors to inquire if they were willing to participate in the project see Appendix A. Contact information for participants was primarily obtained through organization websites or through the Alberta government online directories. Some key individuals declined to be interviewed, and provided recommendations of qualified individuals to speak in their stead. These individuals were also pursued for interviews. A copy of the request to be interviewed can be found in Appendix: A.

Table 4.1 explores several of the advantages and limitations of using semi-structured interviews for the interpretive analysis of oil sands reclamation policy.

Table 4.1: Advantages and Limitations for Data Collection Through Semi-Structured Interviews

Data Collection	Type	Advantages	Limitations
Semi-Structured Interviews	Face-to-Face	Useful when participants cannot be directly observed	Provides indirect information filtered through the views of interviewees
	Telephone	Participants can provide historical information	Provides information in a designated place rather than the natural field setting
	Skype	Allows researcher control over line of questioning Prepared questions ahead of time Allows respondents to express opinions using their own terminology	Researchers presence may bias responses "Interviewer effect" Not all people are equally articulate and perceptive

Note: this table includes information taken from (Bogdan and Biklen 1982; Merriam 1998; Creswell 2009).

As Table 4.1 illustrates, there are in fact few drawbacks associated with data collection via semi-structured key informant interviews. However, these limitations or drawbacks were addressed in both the development of the interview scripts, and during the actual interviews. One concern for interviews relates to the indirect access to information; however, during the research phase

of this project significant time was dedicated to understanding the policy networks and agency structures. This was carried out to highlight key individuals involved in oil sands reclamation. This assured the data collected from the interview process was valuable, accurate, and informed. The key informants interviewed were involved and well versed in the reclamation policy process.

Face-to-Face interviews were carried out over a week in Edmonton, Alberta during May of 2014. This allowed interviewees to remain in a familiar setting during the interviews, and also provided observational context for each organization interviewed in Edmonton. Yet another concern for interview methods is called the “interviewer effect,” this refers to the influence an interviewer’s sex, age, ethnicity, and background can have on the interviewee’s responses (Denscombe, 2007; Newton, 2010). This effect can cause the interviewee to adjust their responses to what they feel the interviewer wants to hear (Gomm, 2008; Newton, 2010). The interviewer effect was addressed by carefully selecting the individuals who were to be interviewed; explaining that their identities would remain anonymous throughout the project; and by revealing the purpose of the project in a manner completely void of bias.

“The key to successful interviewing is learning how to probe effectively- that is, to stimulate a respondent to produce information, without injecting yourself so much into the interaction that you only get a reflection of yourself in the data” (Bernard, 2011).

Approaching the interviews in this manner allowed for positive and candid discussions. Also providing interviewees with a script of questions ahead

of time, per their request, allowed those interviewees to avoid being put on the spot and form responses ahead of time (Newton, 2010). Interviews were conducted in person, on skype, and over the phone. Eight interviews were conducted in total, with individuals active in several capacities within oil sands reclamation policy.

Interview questions were designed to assess policy capacity for government and non-governmental organizations, as well as, to assess the interactions and relationships that exist between these organizational typologies. Questions were designed to follow a semi-structured format and be delivered to individuals holding key policy positions in agencies involved in oil sands reclamation. This was a similar strategy to that used by Evans and Shields in their 2014 study on NGO “policy voice” in immigrant settlement services policy sector (Evans and Shields, 2014). Interviews were well suited for the population of individuals working within the oil sands reclamation policy sector.

The goal for the project and the interview was explained to the interviewee at the start of each interview. The goal of the interview was to learn about each individual, their experiences with reclamation policy in the oil sands, and their understanding of reclamation policy. An interpretive analysis of the data would then assess policy capacity and policy relationships for oil sands reclamation policy. The semi-structured format allowed the interviews to follow relevant tangents that were not previously written into the original script. This loose format resulted in a series of unique perspectives for government and NGO interviewees. Interviews ranged in time from thirty minutes to two hours in

length. Interviews were recorded and later transcribed and reviewed. The transcribed conversations were then emailed to the interviewee for them review and edit their responses.

Developing Interview Scripts

Two scripts were developed for this project, one for government agencies and one for non-government agencies. These scripts can be referred to in Appendix: A. These semi-structured scripts contained ten questions each, as well as various leading sub questions stemming from the ten main questions. These main questions fell within four themes: personal, organization, overview, and assessment. Table 4.2 expands on these four themes.

Table 4.2: Interview Scripts Questions Themes and Purpose

Theme	Purpose
Personal	Will show how a person got into their work, what their role is, opportunities they've had to advance, and what it is like to work on this type of project
Overview of reclamation policy as it articulates in their department of government or within their NGO	Will explore the perspectives of policy professionals to reveal their views of what reclamation policy in Alberta actually is.
Organization	These questions will show how a government department or NGO functions and will focus on organizational policy.
Assessment based policy making	Indirect questions that ask policy professionals to assess how it is all working with oil sands reclamation, Government, NGO, and Society interaction. As well as present evidence supporting these claims.

These themes were important when the interview results were analyzed. All interviews followed the same protocol and general line of questioning. The four themes were developed to cover seven key factors for policy capacity within each agency including: work environment, tasks performed, tools used, employee perception, evidence based policy work, engagement with other agencies, and training. Basic demographic information was also collected. These factors are discussed in greater detail in Table 4.3.

Table 4.3: Policy Capacity Factors

Primary Policy Capacity Factors	
Work Environment	Government / NGO Policy Units Management
Tasks Performed	Advising Data Collection Analysis
Policy Tools	CBA RA Regulations Briefing Subsidies Fines
Employee Perception	Attitudes View of Government View of NGOs View of Oil Sands
Evidence-Based Policy	Data availability Policy Learning
Training	School Experience Classes Mentoring
Policy Networks	Engagement with outside Agencies

U.S. Congress, Office of Technology Assessment, *Environmental Policy Tools: A User's Guide*, OTA-ENV-634 (Washington, DC: U.S. Government Printing Office, September 1995).

After the data had been collected and transcribed it was organized and analyzed using the four main themes: personal, overview, organization, assessment. These themes reduced the volume of data and revealed trends for the seven key policy capacity factors. The data for government and NGOs was compared using the policy capacity factors. Additionally, policy capacity within each individual agency was examined, policy capacity within the government agencies, policy capacity within the non-government agencies, and overall policy capacity within agencies involved in oil sands reclamation.

The goal of this research was to determine the level of capacity within the reclamation policy process, to provide insight for agencies as to what they do and why they do it, and to help explain how the process could change to increase capacity and improve reclamation policy effectiveness in the oil sands. Interpretive analysis allowed this project to explain the role of NGOs within the oil sands policy conversation, as well as the role of government agencies. Furthermore, the interactions between the two, and how each agency typology viewed their role was made clear in this analysis. Examining the policy networks present in reclamation policy, and the capacity for NGOs to influence policy; illustrated the unique advisory relationships and capacity for organizations working towards reclamation in Alberta's oil sands.

Chapter 5: Results

This chapter will display the results from the interview process in several tables, and establish a foundation for a discussion. These tables will explain policy capacity strengths and weaknesses for the government and NGOs working on reclamation in the oil sands. Finally, a comparison between policy capacity for government and NGOs will be presented in the final table.

Table 5.1: Autonomous NGO Policy Capacity Assessment for Oil Sands Reclamation

Organization	Policy Capacity Strengths	Policy Capacity Weaknesses
NGOs	<p>Work Environment NGOs Moderate NGOs Staffing</p> <p>Tasks Performed Report Writing Stakeholder Meetings Consultations</p> <p>Policy Tools Stakeholder Meetings International Media Industry best practices</p> <p>Employee Perception Positive</p> <p>Evidence Based Tools Report Writing Oil Sands information-portal</p> <p>Policy Network CEMA AER</p> <p>Policy Training Policy Experience Research Classic Education</p>	<p>Work Environment NGOs Funding</p> <p>Tasks Performed Type 2 Consultation Lobbying</p> <p>Policy Tools Oil sands information-portal Lobbying</p> <p>Employee Perception Negative Disenfranchised</p> <p>Evidence Based Tools Oil sands information-portal</p> <p>Policy Network AER Industry</p> <p>Policy Training Classic Education</p>

Table 5.1 highlights the seven primary components of policy capacity that were discussed earlier. They are separated into policy capacity strengths and weaknesses, and are also separated by organization type. Concerns for government capacity include: funding, staffing, short-term policy approaches, policy training, policy networks, and data collection. Funding and staffing were key concerns for government respondents, because funding plays an important role in staff size and experience. Respondents also indicated the government is relying too heavily on classically educated applicants with less real policy experience. In the view of the respondents, workers with real policy experience are more valuable in reclamation policy. Conversely, policy tools highlighted the positive aspects of policy capacity for government. The approvals process was viewed by most respondents as effective for oil sands reclamation, and the outlook for this program was positive. Stakeholder meetings were yet another aspect of both policy tools and policy networks that many government respondents indicated were a positive addition to the reclamation process; however, they did indicate that these meetings have a limited impact on the process.

Table 5.2: Government Policy Capacity Assessment for Oil Sands Reclamation

Organization	Policy Capacity Strengths	Policy Capacity Weaknesses
Government	<p>Work Environment AESRD AER</p> <p>Tasks Performed Approvals Process</p> <p>Policy Tools Approvals Process Long-term policy view Neighbor collaboration on reclamation plan Regulatory system Regional Plans Oil sands information-portal Mine Financial Security Plan</p> <p>Employee Perception Positive</p> <p>Evidence Based Tools Industry Self Reporting Approvals</p> <p>Policy Network Moderate NGOs Industry CEMA</p> <p>Policy Training Education Policy Experience</p>	<p>Work Environment Staffing AER Funding</p> <p>Tasks Performed Short-term policy Initiatives</p> <p>Policy Tools Regulatory Process Data Collection Consulting</p> <p>Employee Perception Negative</p> <p>Evidence Based Tools Industry Self Reporting</p> <p>Policy Network Radical NGOs International Media CEMA</p> <p>Policy Training Lack of Experience Classic Education</p>

Table 5.2 illustrates NGOs shared many of the same concerns expressed by their government counterparts. Notably staffing and funding were areas where both organization types struggled. Policy attitudes presented a problem for NGO respondents, and there is a wide spread belief that policy advice originating from oppositional and autonomous NGOs is not receiving

consideration from government decision makers. Additional concern for NGO capacity is directly tied to their ability to obtain information. Which is why the oil sands information portal received mixed reviews from NGOs. While the current data collection and sharing system is a significant improvement upon the previous system, NGOs remain limited by the speed at which information is made available. Working with dated information inhibits the ability of NGOs to consult with government, write reports, and inform media outlets. The data currently being used for the information portal originates from industrial sources. This is cause for concern for many NGOs, because this data is largely unchecked. The introduction of AER, a quasi-autonomous NGO, is potentially the most polarizing issue with regards to oil sands reclamation and regulation. A number of respondents stated they were disappointed with the regulatory process and that there was little enforcement coming from government.

Conversely, NGOs showed strong levels of capacity in policy networking, CEMA, writing reports, consulting with media, consulting with government, and hiring skilled staff members. NGOs were viewed as providing important advice for government during multi stakeholder meetings. NGOs have been resourceful and persistent in their attempts to influence the reclamation policy process. They lack many of the resources and connections afforded to AER and government agencies; however, they continue to consult and influence the process through whatever connections and means they have available.

Table 5.3: Strategies for Government versus NGOs for Oil Sands Reclamation

Organization	Effective reclamation strategies for the oil sands	Ineffective reclamation strategies for the oil sands
Government	<u>Oil sands information-portal</u> Approvals Regulatory system AER Regional Plans CEMA Long-term policy view Neighbor collaboration on reclamation plan Industry best practices Moderate NGOs <u>Consulting</u> Stakeholder Meetings	AER CEMA Short-term policy view Radical NGOs <u>International Media</u>
Non-Government	Stakeholder Meetings <u>International Media</u> Moderate NGOs Writing Reports AER <u>CEMA</u> Industry best practices	<u>Oil sands information-portal</u> AER No enforcement penalties <u>Type 2 Consultation</u> Lobbying

Table 5.3 displays which strategies each organization type deemed effective or ineffective. The strategies displayed in bold font are those which were deemed both effective and ineffective by the same organization. AER and CEMA are examples of this for government organizations. While just AER appears on both lists for NGOs. The strategies underlined are those that conflict between the organization types. Government considers consulting and the oil sands information portal to be effective for oil sands reclamation, while NGOs

view these strategies as ineffective. Conversely, NGOs view CEMA and the use of international media as effective strategies for reclamation in the oil sands, and government views these as ineffective

Chapter 6: Discussion

The intent of this chapter is to expand upon and derive meaning from the findings presented within the results. Additionally, the research questions laid out at the outset of this thesis will be addressed. These research questions can be reviewed in Table 6.1.

Table 6.1: Research Questions

Research Questions
1) What role do Alberta's NGOs play in reclamation policy in the oil sands?
2) With regards to oil sands reclamation, what are the strongest indicators of policy capacity in government and non government organizations within Alberta? A) How do the tasks performed and policy tools employed by government agencies and NGOs reflect on their policy capacity? B) How do policy-based attitudes of government and NGOs impact these organizations' policy capacity?
3) What can these policy capacity indicators reveal about the future of the oil sands reclamation?
4) What are the reclamation policy implications?

The initial portion of this chapter will explore the role of Alberta's NGOs in oil sands reclamation policy. The focus will be the position and access NGOs are granted within the reclamation policy network. The discussion of access will assist in defining the role of NGOs in reclamation policy. Additionally, policy based tasks, tools, and attitudes will provide a platform to establish contrasts between government, quasi-autonomous NGOs, and NGOs. Finally, a discussion and comparison of government and NGO policy capacity will illustrate which strategies are currently effective for oil sands reclamation, and what strategies should be pursued for future reclamation efforts.

The Role of NGOs in Alberta's Oil Sands

This project set out to answer questions surrounding oil sands reclamation policy, government and NGO policy capacity, policy advice relationships, and to understand the various perspectives of reclamation policy that exist in Alberta's oil sands. The eight interviews conducted illustrated a pattern of contrasting perspectives; on the one side were government agencies and quasi-autonomous NGOs, and on the other were independent NGOs. These contrasting perspectives were founded in the role NGOs should have in the policy process, and their ability to influence the policy process.

When NGO respondents were asked to explain their role within reclamation policy, they revealed their struggle to influence policy in Alberta. The ability an NGO has to influence the policy process is controlled by several factors: work environment, tasks performed, tools used, employee perception, evidence-based policy work, engagement with other agencies, and training. A few of these factors rely solely on internal influence; however, several are controlled or strongly influenced by the government. Therefore, Alberta's NGOs operate under the mindset that government and industry will determine the level of consideration given to their input. The interview process highlighted consultation as the primary means for NGOs to access reclamation policy. Respondents working for NGOs classified their interactions with government and AER primarily as type two consultations. This indicates the presence of a scenario wherein the government of Alberta is arriving at a decision prior to engaging an NGO. This dynamic has been well documented in Canada and is

supported by two separate studies conducted on NGOs in Canada; the first by Wellstead and Evans in 2013, and the second by Evans and Shields in 2014. These studies established the NGO “policy voice,” or NGO access, is both controlled and limited by government. Additional support for this claim is provided in the following statement, made by an NGO respondent. This respondent has accumulated fifteen years experience working in oil sands with a focus on oil sands reclamation. This response is directed at the ability of NGOs to influence the policy process within Alberta.

It’s hard sometimes as an organization that has less power to influence change, so you can easily feel disenfranchised. There are all kinds of opportunities for “engagement with the government,” but you may not feel you, it’s actually consultation. So I think that is why the effective NGOs in the province have really started to attempt to influence nationally and internationally and less so influence locally (Interview 3 2014).

In an attempt to enhance their overall influence and access to policy decision makers, NGOs have reached out to national and international media. Multiple NGO respondents acknowledged that consulting local and regional actors did not achieve the same influence as approaching certain international organizations. Alberta’s government is especially sensitive to international opinions on the oil sands. This is attributed to the international investment and consumption of their resources. NGOs within Alberta understand this to be the case, and have adopted a strategy where they attempt to influence the views and beliefs of international policy actors. An NGO interviewee, with three years experience in oil sands reclamation, shared some background explaining why NGOs are pursuing this current strategy. This quote addresses some of the

inhibiting factors for NGOs as they attempt to influence and access the reclamation policy process.

Alberta is very sensitive to international politics, something like the keystone XL pipeline. Alberta in some ways pays more attention to international groups than the groups that are actually here. Because those groups are making it more difficult for them to get the pipeline approved. So we are invited to consultation meetings, we take every opportunity to engage with the government. We do some behind closed doors lobby work, but I think we are hard pressed to say what level of impact does that actually have on the policy that comes out the other end. We are vastly outnumbered by the number of companies that are doing equivalent lobbying here. Industry organizations like CAPP have so much money, and so many people, and so many resources. They inherently have the much louder voice than we do on policy change. We are given the opportunity to comment on policy, but I would say that industry is by in large the biggest stakeholder to government (Interview 7 2014).

The advice and consult provided by NGOs for the government of Alberta does not always receive consideration by decision makers. One reason cited in this response is the influence industry has over the policy process. Industry has a far greater influence over the government when compared to other stakeholders. This is not surprising, because industry has far greater resources to engage and lobby decision makers in government. NGOs within Alberta have criticized the government for being overly concerned with industrial wants and needs. These NGOs have also claimed the government has neglected the views of other stakeholders, specifically NGO's and those who oppose the views of industry in the oil sands. NGO respondents indicated the government of Alberta has limited the value of input from stakeholders opposing industry. This dynamic has forced oppositional NGOs to leave multi-stakeholder groups and

reach out to international media in an effort to express some influence on reclamation policy.

By increasing international concern, oppositional NGOs have exhibited some influence over the reclamation process. However, the government of Alberta has not viewed these actions favorably. This strategy has created a gulf between local government and several of Alberta's NGOs. The severing of government and NGO relationships has damaged policy networks and has further prevented government and NGOs from effectively working with one another. In the following quote a member of the NGO community, with over thirty years of experience, explores this issue further and explains why government sometimes has difficulty working with NGOs in Alberta.

There are rational and sane NGOs who acknowledge that oil sands are going to happen; therefore, we should try to help and manage them as best as possible. And then there are the people who simply don't want the oil sands to exist. Those guys are not going to influence except for creating a bunch of noise, which creates distractions and then causes grief. But they are not going to influence the process, because no one wants to listen to them (Interview 2 2014).

This statement establishes that NGOs are as diverse as the stakeholders they represent. NGOs exist along a spectrum in Alberta; they range from an oppositional position against oil sands development, to a more moderate position where an organization acknowledges development in the oil sands is certain. These positions are not static; they vary from issue to issue, and will shift along the oppositional to moderate continuum over time. There are certain polarizing policy issues that divide NGOs and industry. Oil sands reclamation is a primary example of one such issue. While developing reclamation policy the

government has been forced to side with either industry or the oppositional NGOs. In such circumstances Alberta has typically sided with industrial interests, and as a result oppositional stakeholders have been largely pushed out of the reclamation conversations. However, stakeholders who have maintained a more moderate view of reclamation have had opportunities to participate in the reclamation policy process. A government respondent with upwards of thirty years of experience explains how cooperative NGOs may have a voice in the reclamation policy conversation.

Others who want to try to help, [Alberta NGO] and others like that, their ability to influence depends on kind of the approach that they take. Whether or not they are sitting in on things like CEMA, and others where they get in and help shape things, and that is very cyclical. So again, it's partly people, it's partly related to their philosophy at the time. So [Alberta NGO] has gone from being someone you would listen to, to someone you wouldn't, and now they are getting closer to someone you might listen to again. And I think that is cyclical, and it will change over time. So their ability to influence things depends to a great extent to how they approach things. They have some smart people and some good advice to offer, but it will not always get listened to if it is presented in a way that is deemed to be problematic. So our regulatory system, and probably from the industry point of view the same thing happens; if you want to spend your time focusing on things where you can make positive impacts and if all you are doing is handling press releases you are not actually spending time trying to do things that are positive for the environment. You are spending time writing papers. So NGOs, can they help and have some influence? Yes. Are they going to have a huge impact? Probably not (Interview 2 2014).

The general impression left by NGO respondents conveyed their struggle to compete with industry and access government. This is especially true for those organizations and stakeholders that oppose the dominant views and opinions of industry. The government's view towards oppositional NGOs explains why NGOs have branched out and are speaking to likeminded

international organizations. However, this behavior is only further eroding government and NGO relations. The inability of these two groups to work together in a multi-stakeholder setting is concerning. It is quite common for stakeholders to disagree on policy issues; however, it is uncommon for increasing numbers of NGOs to reach out to international media for assistance. The policy advice network is not functioning as it should for reclamation in Alberta's oil sands. Multi-stakeholder access for oil sands reclamation is excluding stakeholders who oppose development and industry. If government decision makers, moderate NGOs, and oppositional NGOs were actively involved in CEMA; many of the public relations hurdles government and industry are encountering might be avoided. However, oppositional NGOs have been so disenfranchised by these processes that many have removed themselves from CEMA and other stakeholder platforms (Pembina Institute, 2008).

The other side of this conversation is concerned with how government respondents viewed NGOs working in reclamation policy. Government employees conveyed a somewhat different perspective when asked to comment on the role of NGOs in the policy process. A government worker, with over fifteen years of experience in the oil sands, shared a brief and favorable summary of the role NGOs and other stakeholders play in reclamation policy.

While it can sometimes be slow and painful getting to a decision, because you have so many cooks in the kitchen kind of thing. At the end of the day the product that comes out tends to be valuable, because people have been involved throughout all the stages, because they have the buy in (Interview 4 2014).

This respondent is commenting on the government of Alberta's efforts to be more inclusive in the reclamation process. The primary method for accomplishing this is through multi-stakeholder decision-making in the regional plans, established by the land use framework in the Alberta Land Stewardship Act. Both government and NGO respondents acknowledged the value of the multi-stakeholder process, specifically the Cumulative Environmental Management Association (CEMA). Although, there are individuals who oppose the multi-stakeholder process, there are those within industry who view the multi-stakeholder process as redundant and overly time consuming. There are also those from oppositional NGOs who see the multi-stakeholder process as ineffective. Conversely, government respondents expressed that CEMA and other multi-stakeholder groups are valuable assets in the policy process. Government respondents explained groups like CEMA are important for policy development, because they provide advice and insights for government workers, who are not always exposed to on-the-ground policy. In the following quote a government respondent, with upwards of thirty years of experience, described how the use of multi-stakeholder groups has evolved since 2006.

We went through a time period, I kind of see a rapid growth of oil sands from about 1996 to 2006, largely embracing cooperative approaches. At about 2006 there was a change in my view, it started to become a bit more adversarial. I think some other groups started to question the value of participation in the multi-stakeholder processes. Industry, with regards to was it really appropriate for the multi stakeholder groups to make certain policy decisions or is that up to government? Non-government groups, if I am putting all of this energy into multi stakeholder processes am I seeing the benefit coming out of that? (Interview 6 2014).

This quote expands on the recent history of NGOs and government relationships, and describes how in 2006 attitudes began to shift as oil sands expansion ramped up. This expansion, by industry created tension between NGOs and industry, which forced government to mediate. NGOs suggested they were not granted access to the policy process and were concerned their recommendations were not receiving the consideration they deserved. At the same time, industry suggested NGOs and multi-stakeholder groups were afforded too much influence over the policy process. In response to these concerns government was forced to assess the arguments on both sides. This same government respondent expanded on the current considerations they are forced to assess surrounding NGOs and the multi-stakeholder process in the following quote.

So it is an interesting time period where we are at right now, compared to other jurisdictions. We still strongly embrace multi-stakeholder processes shared stewardship. But exactly how does that work? And for those processes to work I think the various participants need to see the benefit arise from those. So it is an interesting time with regards to our party seeing the benefit of that, and there are different pulls on government. On the one hand embracing multi-stakeholder processes, but on the other hand those take time to do properly. Sometimes there isn't the time available. So is there a need for government to act? Then there can be various perspectives with NGOs and others wondering; is government too slow to act? And industry wondering; has government done enough analysis or are some of these policies that are not sufficiently well thought out? (Interview 6 2014).

This response explains the various questions government is forced to consider when they determine how to proceed with reclamation policies and strategies for the oil sands. There appears to be a sincere effort by Alberta's government to balance the wants and needs of industry, and at the same time

operate in a manner permitting all stakeholders in the region some level of access. As the respondent noted, this can be a difficult balance to achieve. The government of Alberta must determine when to pursue a multi-stakeholder solution and when it is not pragmatic to conduct multi-stakeholder discussions and decision-making processes. The respondent continues to expand on the government's attempt at balancing these issues in the following statement.

So it is this interesting dynamic that government finds itself in. Ultimately government has to set policies, but how much recommendations? How much input does it get from various parties? And an ideal situation is where there is consensus, but on contentious issues, and where there are very different vested interests, consensus may be very hard to achieve on broader issues. So how much input should government get from multi-stakeholder groups? And then, when should government act and to what degree should government act? That is the dynamic I see occurring around policy right now related to the oil sands (Interview 6 2014).

There are many questions decision makers in government are forced to ask surrounding the balance of stakeholder interests. The government has been tasked with answering these questions as they establish their approach for oil sands reclamation. The multi-stakeholder process allows all interested parties to express concern and offer their solutions; however, it is time consuming and can be viewed as inefficient. Industry has urged government to move away from such time consuming enterprises and pursue a more streamline approach. On the other hand, when government avoids the multi-stakeholder process a consensus is reached easier and therefore decisions are made faster. This approach is typically met with protests from stakeholders outside of industry, and encourages stakeholders to reach out to national and international media.

The rapid expansion of oil sands between 1996-2006 polarized government and NGOs opposing the rate of expansion. The result of this contentious dynamic is more work for government decision-makers deciding when to involve oppositional NGOs and when to bypass them. Part of this process involves determining what type of consultation government wants the NGOs to participate in. Selecting type one consultation indicates decision-makers intend to factor NGO recommendations into the reclamation process. Conversely, selecting a type two consultation indicates decision-makers prefer minimal involvement by NGOs in the reclamation process.

It is difficult to determine which type of consult is most common for oil sands reclamation because the disparity between government and NGO opinions on the matter. A government respondent, who has worked in oil sands reclamation for nearly fifteen years, explains the value of the multi-stakeholder process in the following quote. This individual also expands on potential threats to this process in the future.

Government relies on CEMA to write reclamation policy, in part because the government doesn't have enough resources and experience themselves, but also because they get realistic industry feedback. They get feedback from the first nations, and it is a consensus-based organization. So that means recommendations for policy that come from CEMA, to the government, are important and valuable and supported by the regional stakeholders. One of the issues right now is that industry is pushing so hard for CEMA to disappear, because they want all of what CEMA does to be incorporated into the new COSIA, which I think never should happen, because COSIA is not multi-stakeholder (Interview 8 2014).

CEMA is described as an integral piece in the policy development process. Government is said to rely on this multi-stakeholder group for developing

informed consensus based strategies. Critics of this process have cited the time and effort required to reach a consensus as being cumbersome to progress. With such a diverse group of organizations represented within groups like CEMA, there are inevitably conflicting views that must be sorted out. Industry has argued this process to be redundant and overly time consuming. This has placed pressure on government to examine the efficacy of such multi-stakeholder endeavors. However, supporters of multi-stakeholder initiatives claim these groups are better situated to construct effective evidence-based policy. The nature of multi-stakeholder groups forces them to take time and weigh through all represented perspectives, which established credibility and buy-in amongst stakeholders.

The importance of multi-stakeholder groups is further supported by the respondent's claims that Alberta's government lacks the experienced staff to develop their own policies. The respondent suggests the government has come to rely on the expertise of individuals within these multi-stakeholder groups, because the government does not have the resources to hire and retain experienced staff. Sufficient funding and experienced staff are two critical factors that directly influence an agency's policy capacity. However, if the government of Alberta effectively uses consultants for oil sands reclamation policy it would alleviate the need for government to retain a full-time experienced staff. Examples of consultants for sands reclamation include: the academic community, NGOs, First Nations communities, and industry.

NGO and Government Perspectives for Oil Sands Reclamation Strategies

Government agencies, AER, and NGOs have all claimed similar goals for oil sands reclamation. However, NGOs have expressed concerns that industry might have too great an influence over the government and AER. NGOs are concerned there is a gap between government and AER's goals, and government and AER's actions. Critical differences between the government and AER, and NGOs, are best understood through their views on how to develop reclamation policy, influence reclamation policy, and monitor the actual reclamation of Alberta's oil sands.

Government employees widely support the approvals process along with the new regulatory regime, AER. Government respondents deemed the following effective reclamation strategies: oil sands information portal, approvals process, regulatory system, AER, regional plans, long-term policy view, neighbor collaboration, industry best practices, CEMA, consultation, and moderate NGOs. Several of these initiatives are highly integrated with one another. The oil sands information portal is an online initiative, established by the government of Alberta, and is an attempt to become more transparent. This initiative also allows the public faster access to data, and is a measured improvement to previous systems. The approvals process for oil sands refers to the process industry must complete every ten years. During this process mining companies are required to outline their reclamation plans, and display how the mine is meeting all standards set by government. Through the course of this research the responsibility for the approvals process has been transferred from Alberta

Environment to the Alberta Energy Regulator. This marked a significant change in how the government conducted reclamation policy in Alberta. Government employees also noted their preference for long-term policy strategies for reclamation over short-term, 'fire-fighting,' strategies. The lower Athabasca regional plan was cited as an example of a long-term initiative for the oil sands. This regional plan was established under the land-use framework, and the Lower Athabasca Regional Plan was the first to be completed in 2012. The land use framework set out to manage the cumulative effects of development at a regional level within Alberta. This strategy is considered both a long-term strategy as well as a cumulative approach. Finally, CEMA was mentioned to be an effective tool for reclamation policy within Alberta. CEMA is a multi-stakeholder group used to advise government on cumulative effects management for the oil sands.

Government employees also presented strategies they did not consider effective for oil sands reclamation. It is important to consider that there are a few strategies present on both effective and not effective lists, though most are exclusive to one or the other. Government respondents declared the following strategies ineffective: AER, CEMA, short-term policy strategies, radical NGOs, and international organizations and media. AER and CEMA are examples of strategies government respondents consider both effective and ineffective. Government employees remain undecided on AER because it is a relatively new and unproven entity in Alberta. CEMA is a multi-stakeholder group, and such groups commonly receive mixed reviews from industry and government in

Alberta. This can be attributed to questions surrounding the actual influence these groups can have, and should have, on the policy process.

One strategy universally viewed as not effective by government respondents was the short-term approach to policy. Respondents made this clear through their statements supporting long-term strategies. Government respondents also cite oppositional NGOs and international organizations as another ineffective influence on reclamation policy. From the government's perspective oppositional NGOs and international organizations have created public relations issues for government and industry. This has a negative influence on policy work because it removes important resources and personnel from doing real policy work.

The other side of this discussion of effective and ineffective strategies concerns the views for NGOs involved in Alberta's oil sands. When NGO respondents were asked to comment on effective strategies for oil sands reclamation they shared many of the same strategies cited by government respondents. There were, however, a number of effective strategies cited exclusively by NGOs. According to NGO respondents effective strategies for influencing reclamation policy in the oil sands include: stakeholder meetings, international media and organizations, moderate NGOs, writing reports, AER, CEMA, and industry best practices. Stakeholder meetings and multi-stakeholder approaches, specifically CEMA, were considered effective by both government and NGO respondents. NGO respondents echoed their government counterparts by acknowledging AER as an unproven entity. Both groups of respondents

showed concern for how this agency will perform. Although there is optimism in both groups that this agency will improve the current regulatory system.

One strategy that clearly separated NGOs from government is the involvement of international organizations and media. NGOs have utilized international organizations and media to gain access to decision-makers and bring attention to the oil sands. These sources have also provided an outlet for Alberta's NGOs to express their concerns. This strategy has frustrated government agencies and strained government NGO relationships. Yet another effective strategy cited by NGOs is report writing, which is how many NGOs involve themselves in the reclamation and policy process. Writing reports allows NGOs to provide analysis for policy, and can also assist them in their attempts to act as government watchdogs. These reports have proven effective for consulting with government and introducing information to multi-stakeholder meetings.

Significant contrasts are present among government and NGOs when NGOs were asked to comment on ineffective strategies for oil sands reclamation. NGO respondents cited a few strategies as both effective and ineffective, which was also the case for government respondents. Strategies declared ineffective by NGO respondents include: oil sands information portal, AER, enforcement penalties, consultation, and lobbying. As was previously noted, NGOs represent a diverse group of stakeholders in Alberta, and these groups retain distinct views on how reclamation in the oil sands should be approached. The oil sands information portal was considered to be ineffective by NGO respondents. This

was attributed to frustrations with the delay of information being made available. The primary complaint stated the information made available through the portal is already outdated. However, interviews with government respondents refuted this claim and made it clear they are publishing all information they are legally obligated to on the portal. Yet another ineffective strategy cited by NGOs is type two consultations. Type two consultations occur when government decision-makers enter a consultation process with a strategy predetermined. The government is only involving NGOs to understand potential blowback. In this case, NGOs have acknowledged they are not truly participating in the policy process. NGOs also cited AER's ability to enforce regulations as a concern. NGO respondents did not view the current regulatory processes as working and suggest there is too much freedom for industry in this process. Finally, lobbying was decidedly ineffective for NGOs. Respondents acknowledged they are outmanned and outspent by industry in this area. NGOs cited a lack of discourse with government decision-makers and competition from industry as reasons they have been forced to reach out to international organizations.

Policy capacity indicators for Government and NGOs in Alberta's Oil Sands

Reclamation, monitoring, and the regulatory processes are continuing to evolve in Alberta's oil sands. As new agencies are introduced and the Government of Alberta attempts to pursue a cumulative and inclusive approach to reclamation; it is important to examine how the various organizations interact and the role each organization plays. Policy capacity is a reflection of an agency's ability to mobilize resources to accomplish policy goals. The specific variables

targeted for policy capacity in this research include: tasks performed, policy tools employed, work environment, employee perception, policy networks, training, and evidence based techniques. Evidence-based techniques and policy advice are essential for the informed decision making process. Therefore, it was important that this research establish how data is collected and where the data used to evaluate and develop policies originates. Additionally, it was essential to ascertain how the data was circulated throughout the various agencies and policy network. This illustrated how data collected on policy and policy performance is used to evaluate, inform, and develop new policy.

The interviews revealed that the government of Alberta relies heavily on industry to provide reclamation data for the oil sands. This has started to change with the introduction of the Joint Oil Sands Monitoring Plan, which has led to the development of the Alberta Environmental Monitoring Evaluation and Reporting Agency. An interview with a senior level government respondent revealed important information concerning the data gathering process for oil sands reclamation. This respondent stated,

I would say data on reclamation related items mainly comes in through regulatory processes such as reporting that is done for approvals and our environmental approvals that are issued for a maximum of 10 years (Interview 6 2014).

So we have done a detailed review, I can recall in 2005 and 2006, when we renewed the approvals for [Two Oil Companies]. We did look at their past performance on reclamation, and we did make some changes on things such as soil conservation that we went to a more prescriptive approach. And part of it was recognition of the amount of disturbance that was going to occur, and part of it was some uneasiness that we had that were the companies conserving enough materials in the right way to assure successful reclamation (Interview 6 2014).

As this quote indicates, the regulatory approvals process is the primary vector through which the government of Alberta receives information from industry on the status of current mine sites. Prior to the approval process industry is required to conduct an Environmental Impact Assessment (EIA). This is the initial step in the process of developing an oil sands mine. The EIA will typically be worked into the initial approval, and this information will eventually be made available on the oil sands information portal. The approvals system continues to improve, but in many ways the government is playing catch up with industry. Another senior level government respondent explained what an “ideal scenario” would look like when an oil company goes through the approvals and reclamation process.

The ideal situation would be they are building off everything. So the EIA they have gathered their information, then they get the approval, and their monitoring plans build off what they have used in the EIA. So that you can kind of continue that so that your data you can actually look back and use it right (Interview 4 2014).

Then ideally that then forms the reclamation and that goes into the monitoring group. We are not always seeing that and it is actually uncommon to have it flow all the way through (Interview 4 2014).

This scenario would have industry conduct an Environmental Impact Assessment (EIA), and then build their monitoring plans from their EIA. Which would allow the data contained within a companies EIA to establish an important base as a project continues to develop. This government respondent expands on the initiative to advance the approvals system and enhance monitoring in the following quote,

Hopefully AEMERA⁶ and JOSM⁷ will help us with that, to be able to get companies to do when they are at the heart of project inception so they have this idea and then they are going out and testing stuff to see if they can even have a go at this project (Interview 4 2014).

As these statements illustrate, there are conflicting responses surrounding the approvals process and data collection for reclamation in the oil sands. The responses indicate the process is continuing to evolve and improve. The respondents did acknowledge that regulators rely heavily on industry for data. However, the government has taken steps to enhance their ability to collect data with the introduction of another quasi-autonomous NGO, AEMERA. A senior level government respondent, with upwards of 15 years experience, explains the approvals process and this information exchange between industry and government in the following quotes.

The EPEA approval is a very big, broad tool that is used to cover air, water, and land. All of the inputs, and outputs, and reclamation, and everything. So they are quite detailed (Interview 4 2014)

Each EPEA approval is only 10 years, so after 8 years they have to submit their renewal application to get their next 10 years. But we also look back at how they have performed. So we look at how they have performed and what they are going to do for continuous improvement. So if they have had issues with compliance they need to address how that is not going to happen again. So it kind of feeds in every 10 years (Interview 4 2014).

⁶ AEMERA is a monitoring agency that operates at arms length from the government of Alberta. The job of this agency is to provide objective monitoring and data to decision makers and regulators. AEMERA works closely with AER and AESRD to ensure a cumulative approach is being taken within the oil sands. AEMERA was established in April of 2014 and will be fully operational in 2015 (AEMERA, 2014).

⁷ JOSM refers to the joint oil sands monitoring plan. This plan relies on the cooperation of both the Alberta and federal governments to collaborate in an effort to improve the monitoring programs within the oil sands. The plan sets out to involve stakeholders, understand cumulative effects, provide transparency in the monitoring process, and promote collaboration. JOSM lead to the establishment of AEMERA.

Basically it comes up to how much they can pollute. So you cannot emit more than this, and they will have to stay under that. General companies will come and say, "Oh yes we want to propose this and emit this number of stuff" and we will say, "No, we will allow you to emit this, so figure out your designs so you are under this." So we have the EPEA approval, which will have their limits, then they have to do additional detail because they will have a conservation reclamation plan, a PDA, or Project Development Assessment (Interview 4 2014).

The PDA level detail is like, this well pad is going to go exactly here, and the soil salvage pile is going to go exactly here, and the plan for this specific site is going to be this (Interview 4 2014).

This response reveals a great deal about the exchange between government and industry. Their interaction revolves around the approvals process and the project development assessment. The PDA is a detailed reclamation plan that is updated yearly, while the approval is a general plan and assessment of the projects record in meeting pollution standards. The approvals operate on a ten-year cycle and are submitted project by project. As this interview explains, oil companies are coming to the government with applications for renewal around year eight of the ten-year cycle. At which point, the government and industry discuss the current state of the site and plans moving forward. Part of this is setting up yearly reclamation plans for the mine to accomplish. However, there are notable flaws in the approvals system. One government respondent with fifteen years of oil sands reclamation experience elaborated on these flaws in the following quotes:

Any information that we got related to disturbance or reclamation came directly from industry itself. So there were annual conservation reclamation reports, they were an approval condition. So each oil sands mine gave Alberta Environment the annual report saying what they did in the last year. So that was used for the public tracking on the oil sands

information portal and Save the Environment website (Interview 8 2014).

The government had restrictions in terms of capacity, we weren't able to hire people, we had way more work than we could handle, and way less funding to hire people. So my job, I was probably doing the job of three different people (Interview 8 2014).

We rarely did reclamation inspections, because we didn't have the staff. And now one of the fundamental complaints of NGOs like [Alberta NGO] is that we have to trust that industry is telling us the right information (Interview 8 2014).

This series of responses unveils some of the issues with the flow of information in the reclamation process. First, the information the government publishes on the information portal originates from industrial sources. This is a major concern for NGOs and stakeholders in Alberta, several of which are strongly opposed to taking industry at their word. Furthermore, the government respondent indicates the regulatory agency lacked the capacity to send personnel to check mine sites and confirm industry's claims. This remains a contentious issue for NGOs involved in oil sands reclamation. The addition of JOSM and AEMERA should ease some NGO concerns surrounding the accuracy of industry's self-reporting.

Expanding on this discussion over the flow of data, one NGO respondent with three years of oil sands reclamation experience explained how their organization obtains data, and how they attempt to use that data to influence the policy process.

When it comes to our research papers we use information that is available online, so something like the oil sands information portal is a unique tool. Sort of an open data tool that the government of Alberta recently invested in (Interview 7 2014).

The Alberta Energy Regulator website, they produce statistical reports, and we read all those. I read a lot of them, and some of their documents are updated only annually. So certainly I think the province needs to do a lot more to have real time data and to have information that is released that is accurate on the issue of tailings. The most recent information that we have is from 2011, so when we talk to journalists or when I talk to someone like yourself, the numbers that I am thinking of are already dated, but that is the best that the government of Alberta has made available (Interview 7 2014).

The flow of data is an example of how government and industry exert a strong control and influence on the capacity for NGOs. The best sources of data, currently available to the public, are provided through government websites by way of industrial self-reporting. Stakeholders have challenged the credibility of this information because it comes directly from industry, and the data is largely unchecked. The respondent goes on to cite that the information available on these websites is often outdated. In 2014 the most recent data available was from 2011, according to the NGO respondent. NGOs are attempting to participate in regulating a rapidly evolving industry with data that is outdated and of questionable accuracy. This has several NGOs displeased with government's current monitoring and data collection efforts.

In contrast, another NGO respondent with over thirty years experience shared a different view of the oil sands information portal. This perspective suggests the oil sands information portal has made obtaining data faster and more widely accessible.

I think the other thing that is a lot more common now than it probably was historically is the transparency around the process to develop some of the policies, but also the information that is shared more broadly with

the public. So you know the regulators are a lot more commonly now putting information out and very quickly. (Interview 2 2014)

So the public has access to what the current expectations are and there also tends to be a lot more reporting of progress related to policies. And that will be ongoing on the websites and government reports, and also from the industry side as well. I think that, you know I suspect you will see a lot more of that in the future as well, in terms of trying to make sure the public is aware of: A) what the expectations are and B) how well people are doing relative to those expectations (Interview 2 2014).

This response is an excellent example for how diverse NGO opinions can be. These conflicting viewpoints illustrate that the government has made increased efforts to make data available to the public online, but there remain several issues with the current process. While this initiative is a relatively new undertaking for the government of Alberta, many expect to see continued improvements in data availability. The next set of quotes come from a government employee of 15 years, and are directed at how the oil sands information portal has improved efficiency in that agency.

We post everything on our website, there is environmental assessment regulation that outlines things we have to have on file so if anyone from the public comes in and wants to see it (Interview 4 2014).

If it says it is supposed to be on our file for people to see we will post it on our website. We actually post more than what it says to post. We also post all of our EIAs back until, you know, before we actually got CDs. Those ones aren't posted, but you can go to the library to get them. And the other thing that we have is a mailing list (Interview 4 2014)

We have found now that we post everything on the website we have had a dramatic decline in how many FOIP requests we get. So we are still pushing to see what more we can put on our website, you know it's not that we are hiding it, but there was this process that people had to go through and if we can eliminate that painful process you know its just easier for everybody (Interview 4 2014).

The oil sands information portal has enhanced access to information and efficiency within this particular government agency. This web-based distribution of information has enhanced the capacity for this particular government agency. Their ability to deliver information has been improved, and they are able to spend less time processing information requests and more time tending to actual policy work. At the same time there are limitations to the speed at which information can be made public. This limitation is the primary issue for NGOs, and they have expressed frustration and stated their need for real time data.

The most notable concern for policy capacity in Alberta's government relates to government staffing. Having an experienced staff in place to navigate policy issues plays a significant role in the overall policy capacity for any agency. Experienced staff members are better suited to correct policy issues prior to the implementation stage. Furthermore, these individuals are also more valuable in the policy delivery stages. The research on policy capacity suggests experienced staff and the presence of policy groups were the two primary factors in determining overall policy capacity. Though, as one government respondent explained in their interview, the government of Alberta faces some challenges in hiring and retaining these experienced individuals.

Staff, experienced staff, not just someone with a PhD that is straight out of university with no experience in the field, and that is who the government tends to hire. And those people are, no offense, kind of useless (Interview 8 2014).

The concern raised in this response claims the government tends to hire staff with excellent academic credentials, but less real policy experience.

Individuals with little to no policy experience do not add to the overall capacity of the agency. This raises concerns for government capacity because an experienced staff is one of the primary determinants of policy capacity. Budget restrictions and industrial competition are two contributing factors to why government agencies lack experienced staff.

Additional concerns surrounding policy capacity within the oil sands include monitoring, policy development, long-term approaches, regulation, and enforcement. When asked about the current concerns within the oil sands and areas where improvements in the policy process could be made, one government respondent suggested there is a separation between expectations and what is truly achievable.

One of the things we really need is a better understanding in the whole sector of what it means to reclaim to certain habitat types, and will we actually be able to achieve those (Interview 4 2014).

Several interviewees acknowledged this gulf between the industry's promises and what is actually possible to create at the end of their project. There is a need for government, AER, industry, and NGOs to come to an understanding for what kind of reclamation is acceptable prior to mine approval. This was also cited as an issue in the approvals process, removing the gap between expectations and actual feasible reclamation efforts. There is a call for continued research aimed at oil sands reclamation in Alberta. One respondent expanded on this issue in the following quote,

The in situ sector is still fairly new when you look at some of the other industrial sectors that are out there. So there is still a lot of learning that is happening on the same time and same schedule that we are approving

these projects. So finding ways to integrate all of the learning's so that they can then be formed into either government policy or just industry best practices will be where I see what's really going to be important (Interview 4 2014).

New technologies continue to be introduced in Alberta's oil sands. In situ mining is an example of a technology that has allowed industry to access bitumen deposits previously deemed inaccessible. This advance in technology has forced regulators to play catch up in an effort to develop policy to manage this new type of mine. As industry continues to improve and evolve technology, regulators will be forced to develop policy on the fly. The addition of AER and AEMERA should enhance the capacity of government to address regulatory issues and formulate policy adhoc if necessary.

Another concern for policy capacity is the emphasis being placed on short-term policy issues. The literature review and interviews indicated policy capacity and policy-based attitudes decline when short-term policy initiatives are a priority. Long and medium-term policy initiatives are optimal for increasing policy capacity and policy attitudes. One respondent addressed this issue for oil sands reclamation policy in the following quote,

Within government organizations, like others, there is a tendency that the short-term need the short-term imperative can drive a lot of actions. Can drive a lot of the view, but particularly government has a role in looking at the medium and long term, and it takes a disciplined kind of approach. So what has happened within, I think all organizations: industry, government, others; is the short-term item, because of the urgency, tend to get the attention. The medium and long-term things, things that really take a long-term commitment and long term view, those are probably areas where government has room for improvement. Collectively we have room for improvement (Interview 6 2014).

This response addresses the pressures exerted on government to produce measurable results through their policy initiatives. This paradigm works against long-term policy projects and drives short-term policy initiatives. Whether the government actually has the capacity to enforce such regulations, along short or long timelines is another concern for reclamation policy in the oil sands. Without proper enforcement there is no assurance industry will follow the EPEA approvals and reclamation plans. Multiple NGO respondents voiced their concerns about the government's ability to regulate industry. One individual commented,

There is no enforcement or penalties that a company can anticipate for poor performance. Where is their incentive to dump a lot of money into this question? I think there are strategic policy gaps (Interview 7 2014).

I also think there is a culture gap and I think Alberta needs to get serious about addressing that gap; and ensuring companies do feel this is their responsibility to the province to successfully complete these reclamation activities; and that more money should be invested into making sure there is collaborative dialogue between stakeholders and making sure the best available research is available to companies here (Interview 7 2014).

This respondent cited a need for regulators to clearly establish themselves to industry and enforce the regulations laid out by the EPEA. The individual also called for a culture shift, stating industry needs to accept their responsibility to reclaim the land they disturbed to an equivalent land capability. Suggested methods for improving regulation and industrial culture include, increasing stakeholder involvement, continued government pursuit for better monitoring and data, and enhanced regulation through evidence-based policy development. By increasing stakeholder involvement NGOs along with other

stakeholders will have greater input into the reclamation process. By improving monitoring and data availability AER will be better suited to regulate industry and enforce EPEA regulations.

The focus of this discussion thus far has targeted areas where policy capacity is lacking in some fashion. The following section will present the areas within oil sands reclamation where capacity is sufficient for achieving policy goals. The approvals process received high praise from both government and NGO respondents. One senior government respondent describes an important aspect of how the approvals process has been enhanced in the following comment,

One of the things that has been effective is we have actually written into the approvals that they have to work with their neighbors on their reclamation plan, it is actually written in there. Before we used to just strongly encourage (Interview 4 2014).

The approvals process received tremendous praise from government employees, and is viewed by government as a very effective tool in the reclamation process. It also represents an important time in the reclamation process where government and industry collaborate to make decisions. The introduction of AER should continue to foster a successful approvals process, while enhanced monitoring efforts through AEMERA should assist AER in enforcing standards set within the approvals process. Yet another senior government respondent echoed the successes of the approvals process in their comments directed at successful strategies for oil sands reclamation.

I think the regulatory, the actual regulations themselves, the ten year renewal process, I think those have been the most effective. I think the

CEMA portion has helped to some degree, but in my honest view I think the regulatory system has been more effective to date (Interview 6 2014).

I think some of the things that have been the most effective so far in say oil sands related reclamation have been because we do have specific regulations related to conservation and reclamation. In fact, we just past the 50 year milestone for that, but having some things that are right in regulations legislation that are must do items, I think has been an effective aspect of reclamation strategies (Interview 6 2014).

This respondent pointed to the renewals process as the primary tool for directing reclamation in the oil sands. CEMA is also acknowledged as an important piece of the reclamation process, but CEMA is stated to have a somewhat limited role. While government employees were confident in the ability of regulations to direct industry; NGOs were apprehensive to declare the approvals process entirely effective. NGOs did acknowledge the government was improving their ability to regulate industry; however, a lack of skilled staff within the government and no proven track record for AER raises concerns for the ability of government and AER to enforce regulations.

Chapter 7: Conclusion

This analysis has conveyed insights for government and NGO policy advice networks. Furthermore, this research has demonstrated the value of assessing policy capacity through interpretive policy analysis. The results have highlighted key strengths and weaknesses associated with government, AER and NGOs working towards oil sands reclamation. Policy capacity has identified areas where resources are insufficient to meet policy goals, and through interpretive analysis we were able to determine the sources of this diminished capacity.

NGOs within Alberta have three primary tasks: represent interest groups, provide a voice for oil sands reclamation decisions, and hold government agencies and industry accountable. If NGOs can effectively accomplish these tasks, then policy capacity is adequate. However, the NGOs represented in this study did not display high levels of policy capacity. In fact, many expressed the struggles they encounter in their day-to-day work. The impression left by NGO respondents indicates the government of Alberta and industry strongly influence the capacity of NGOs. This influence can block NGO access and inhibit them from acting as watch dogs or advisors during the policy process. Government exercises this control through the type of consultation they allow NGOs to participate in. NGO struggles are compounded by government's data collection and data sharing process. NGOs obtain data through government websites, and the data available on government websites is derived from industrial sources.

This remains a point of contention for many NGOs working for reclamation in Alberta's oil sands.

NGO respondents indicate the government has allowed industry too great an influence over the direction of policies, and this forces NGOs to step outside of Alberta and involve national and international media. NGO respondents are also concerned the government of Alberta, and AER, are claiming stakeholder involvement as a goal, but not allowing all stakeholders access to the reclamation process. NGO respondents consult and advise government decision makers, but are not confident to state what actual impact their advice has on the process. Government respondents reiterate this claim, and acknowledge NGOs have a limited influence on the policy conversation. Yet, contradicting themselves, these same respondents noted the value of multi-stakeholder groups, and specifically cited CEMA as a valuable contributor for reclamation policy. The role of NGOs in the actual policy process is limited; however, NGOs who have maintained relationships with government are granted access and do participate in multi-stakeholder groups such as CEMA. They are afforded opportunities to consult with decision makers in the government, which does have some influence on policy. This is an important point, because government respondents cite CEMA as a critical element for oil sands reclamation, and a great deal of what government does concerning reclamation actually originated within CEMA.

Government agencies displayed a fair capacity to anticipate and respond to the dynamic conditions that surround oil sands reclamation. The government

of Alberta has taken steps to introduce a new regulatory agency and a new monitoring agency to keep up with industrial expansion. The government stands to improve their capacity when it comes to evaluating current activities to inform future policy. One method to improve this evaluation process would be to bring in outside experts and advisers to inform the policy process. The government of Alberta has made an effort to include multi-stakeholder groups like CEMA in the development and implementation of reclamation policies. Both government and NGO respondents spoke highly of CEMA's involvement in the reclamation process. While the royalty regime has solidified funding for reclamation within the oil sands, funding for the government, AER, and AEMERA remains a concern for both government and NGOs.

This analysis of policy capacity and policy advice for oil sands reclamation indicates there is a need for increased communication between government and NGOs. Granting greater access to stakeholders and utilizing NGO policy advice would alleviate the pressure on government staff that are already spread thin. Additionally, the introduction of AER and AEMERA should improve the enforcement of industrial regulations. NGO respondents indicate there was little enforcement of regulations by the previous regulator. AEMERA should improve data collection and data availability for both government and NGOs, which should in turn allow AER to better regulate industry.

Policy Implications

This thesis has provided a comprehensive and balanced illustration of the reclamation dynamics in Alberta's oil sands. A major part of developing a clear picture of oil sands reclamation is to explain the strengths and weaknesses of actors working for reclamation in the oil sands. This was accomplished through a series of key informant interviews assessing government, quasi-autonomous NGOs, and NGO perspectives and interactions relating to reclamation. The environmental protection and enhancement act, the responsible energy development act, the land-use framework, and cumulative effects management association will continue to shape the future of reclamation in Alberta's oil sands. The environmental protection and enhancement act forms the foundation for reclamation in the oil sands. The EPEA is the basis for all reclamation projects in Alberta. This act is a comprehensive piece of environmental legislation, and has been widely effective for improving environmental quality throughout Alberta. With concern to the oil sands, the criticisms of policy are not directed at the EPEA regulations, but rather the ability of government and AER to enforce and monitor those regulations. This concern ties directly into the responsible energy development act.

The responsible energy development act is the most polarizing piece of legislation moving forward in the oil sands. The establishment of the Alberta Energy Regulator, a quasi-autonomous NGO, was a controversial move by the government of Alberta. Furthermore, as AER is in its infancy it remains unknown whether or not they will establish and retain the capacity to enforce the

regulations laid out in the environmental protection and enhancement act. Staffing was cited by multiple sources as a concern moving forward for government agencies. If AER can alleviate pressure on understaffed government agencies by focusing purely on the energy sector, this will be a positive addition and enhance the overall capacity. However, if AER is unable to improve their enforcement and monitoring efforts, the same issues that existed in the former regulatory agency will also be present in AER. The introduction of AEMERA, through the joint oil sands monitoring plan, will assist AER in their attempts to regulate the oil sands industry. AEMERA will improve data availability for AER, which should allow them to hold industry accountable with regards to their self-reporting for mine and reclamation conditions.

Alberta needs to continue to pursue the multi-stakeholder approaches laid out in the land-use framework regional plans. Continuing to support CEMA will be critical in order to retain stakeholder support, access, and involvement in the policy process. Both government and NGOs acknowledge CEMA as a positive addition in the policy process. The removal of CEMA, or other multi-stakeholder groups, from the reclamation process would be an incredible loss of policy expertise and would be detrimental to the success of reclamation within the oil sands. This multi-stakeholder group produces policy advice and contributes to the development of policy directing reclamation in the oil sands. Additionally, phasing out type two consultations will enhance government and stakeholder relations. This might assist in repairing relationships with oppositional NGOs, and reintegrating them into the multi-stakeholder process. NGOs contain a

wealth of expertise and their knowledge is essential to fill knowledge gaps. Furthermore, the government needs to develop a better system for determining when to involve stakeholders and when it is appropriate to bypass multi-stakeholder processes. This will provide stakeholders assurance that when the government engages them their efforts will be valued. This will also increase policy expertise, enhance NGO policy attitudes, and alleviate some of the need for increased government staffing. One method for the government to be more inclusive will be to establishing longer timelines for policy initiatives, wherever possible.

Finally, the entire policy community needs to have a better understanding of what is being promised by industry, and what they are currently capable of producing on the landscape. Improving communication between industry, government, AER, and NGOs would remove confusion and tension surrounding the unknowns of reclamation. These unknowns need to be made clear to NGOs as well as the stakeholders they represent. As equivalent land capability is ambiguous and does not require land to be returned exactly as it was prior to disturbance; there is room for industry, government, AER, and NGOs to work together and reclaim in a pragmatic fashion, as opposed to promising a landscape that is not possible to produce with current reclamation technologies. Improving the communication between industry, government, AER, and NGOs is the most apparent and cost effective strategy for improving policy capacity and the overall reclamation process in Alberta's oil sands.

The oil sands are certain to continue their growth into the future, the tremendous economic value of this resource has assured their development. Alberta has been commended for being a forward thinking province on environmental issues. The province is pursuing some unique strategies to reclaim the regions disturbed by oil sands. Government employees feel as though they are moving in the right direction, and that regulations will continue to improve. NGOs have argued that industry has been given too much freedom in this reclamation process, and that there are too many unknowns to allow industry to continue to disturb at current rates. The success or failure of AER will have a significant impact on the future of policy and reclamation in the oil sands, and future research needs to be specifically targeted on the policy capacity of AER. Industry, government, and NGOs need to improve their ability to communicate with one another for the continued success of reclamation in the oil sands. Another focus for future research should examine the ability of AEMERA to produce new information on the reclamation process, and if this new data source is matching that which the oil sands information portal has been reporting. This information could then be used to assess the ability of AER to enforce regulations.

Bibliography

- Alberta Environmental Monitoring Evaluation and Reporting Agency (AMEREA). (2014). Measure, Assess, Inform: What We Do. Retrieved September 4, 2014, from <http://aemera.org/about-aemera/what-we-do.aspx>
- Alberta Energy Regulator (AER). (2013). *Report 2013-B: Pipeline Performance in Alberta 1990-2012* Calgary, Canada: Alberta Energy Regulator. 1-85.
- Alberta Energy Regulator (AER). (2014). *The Alberta Energy Regulator*. Retrieved June 7, 2014, from http://www.aer.ca/documents/about-us/AER_Brochure.pdf
- Alberta Environment and Sustainable Resource Development (AESRD). (2012). FAQ-Land Reclamation. *Information Centre*. Retrieved June, 2014, from <http://environment.gov.ab.ca/info/faqs/faq4-Reclamation.asp>
- Anderson, G. (1996). The new focus on the policy capacity of the federal government. *Canadian Public Administration*, 39(4), 469-488.
- Anderson, G. (2014). CAPP crude oil forecast: Oil sands development drives steady Canadian oil production growth to 2030. In *Canadian Association of Petroleum Producers*. Retrieved July 8, 2014, from <http://www.capp.ca/aboutUs/mediaCentre/NewsReleases/Pages/CAPPcrudeoilforecastOilsandsdevelopmentdrivessteadyCanadianoilproductiongrowthto2030.aspx>
- Barnett, C., & Shore, B. (2009). Reinventing program design: Challenges in leading sustainable institutional change. *Leadership & Organization*, (30) 16-35.

- Baskoy, T., Evans, B. & Shields, J. (2011). Assessing policy capacity in Canada's public services: Perspectives of deputy and assistant deputy ministers. *Canadian Public Administration*, (54) 217–234.
- Bernard, H. (2011). *Research Methods in Anthropology Qualitative and Quantitative Approaches* Lanham, MD: AltaMira. 1-492.
- Biermann, F., Davies, O., & Van der Grijp. N. (2009). Environmental Policy Integration and Architecture of Global Environmental Governance. *International Environmental Agreements, Law and Economics* (9) 351-69.
- BGC Engineering Inc., (2010). Review of Reclamation Options for Oil Sands Tailings Substrates. Oil Sands Research and Information Network, University of Alberta, School of Energy and the Environment, Edmonton, Alberta. OSRIN Report No. TR-2. 1-59.
- Bogdan, R., & Biklen, S. (1982). *Qualitative Research for education: An introduction to theory and methods*. Boston: Allyn and Bacon Inc.
- Bryman, A. (2012). *Social Research Methods*. New York, NY: Oxford University Press Inc. (4) 1-498.
- Centre for Energy. (2012). Oil Sands Timeline. In *Centre for Energy*. Retrieved January 5, 2014, from <http://www.centreforenergy.com/AboutEnergy/ONG/OilsandsHeavyOil/History.asp>
- Colebatch, H. (2006). *The Work of Policy An International Survey*. Oxford, United Kingdom: Rowan and Littlefield. 21-32.
- Colebatch, H., Hoppe, R., & Noordegraaf, M. (Eds.). (2010). *Working for Policy* Amsterdam: Amsterdam University Press. 1-257.

- Cote, A., Baird, K., & Green, I. (2007) *A Vital National Institution: What a Cross-Section of Canadians Think about the Prospects for Canada's Public Service in the 21st Century*, Ottawa: Public Policy Forum
- Craft, J., & Howlett, M. (2012) Policy formulation, governance shifts and policy influence: location and content in policy advisory systems. *Journal of Public Policy*, 32(2), 79-98.
- Creswell, J. (2009) *Research Design: Qualitative, and Mixed Methods Approaches*. (3). Los Angeles: Sage Publications Inc.
- Cumulative Environmental Management Association (CEMA). (2014). About CEMA. In *CEMA*. Retrieved August 5, 2013, from <http://cemaonline.ca/index.php/about-us>
- Doern, B., & Gattinger, M. (2003). *Power Switch: Energy Regulator Governance In The Twenty-First Century* Toronto, Canada: University of Toronto Press. 1-211.
- Doern, B., & Toner, G. (1985). *The politics of Energy: The Development and Implementation of the NEP*.
- Denscombe, M. (2007). *The Good Research Guide: For Small-scale Social Research* Berkshire, England: Open University Press. (3) 1-367.
- Edwards, L. (2009). Testing the Discourse of Declining Policy Capacity: Rail Policy and the Department of Transport. *Australian Journal of Public Administration*, (68) 288–302.

- Evans, B., Lum, J., & Shields, J. (2011). *The State of Policy Capacity in Canada: Assessments from Senior Public Servants*. Ryerson University, Toronto, Canada. 1-17.
- Evans, B., & Wellstead, A. (2013). Policy Dialogue and Engagement Between Non-Government Organizations and Government: A Survey of Processes and Instruments of Canadian Policy Workers. *Central European Journal of Public Policy*. 7:(1) 60-86.
- Evans, B., & Shields, J. (2014). Nonprofit engagement with province policy officials: The Case of NGO policy voice in Canadian immigrant settlement services. *Policy and Society* (33) 117-127.
- Fischer, F., & Forester, J. (1993). *Argumentative Turn in Policy Analysis and Planning*. London, United Kingdom: University College London. 1-254.
- Gomm, R. (2008). *Social Research Methodology A Critical Introduction*. Houndmills, England: Palgrave Macmillan. (2) 1-352.
- Gray, M. (2014). Tutorial on Upgrading of Oil Sands Bitumen. University of Alberta. Edmonton. 2014. Web. 11 Aug. 2014.
<https://www.ualberta.ca/~gray/links_and_resources.html>.
- Grant, J., Dyer, S., & Woynillowicz, D. (2008). *Fact or Fiction: Oilsands Reclamation*. The Pembina Institute.
- Gulbrandsen, L., & Steinar., A. (2004). NGO influence in the implementation of the Kyoto Protocol: compliance, flexibility mechanisms, and sinks. *Global Environmental Politics* 4 (4): 54-75.

- Hall, P. (1993). Policy Paradigms, Social Learning, and the State: The Case of Economic Policymaking in Britain. *Comparative Politics*, 25(3), 275-296.
- Halligan, J. (1995). Policy Advice and the Public Sector. *Governance in a Changing Environment*, Guy Peters B. and Savoie D. T. (Eds). Montreal: McGill-Queen's University Press. 138-172.
- Head, B. (2010). Reconsidering evidence-based policy: Key issues and challenges. *Policy and Society*, (29) 77-94.
- Helliwell, J. (1979). Canadian Energy Policy. *Annual Review Energy*, (4) 175-229.
- Howlett, M. (2009). Policy analytical capacity and evidence-based policy-making: Lessons from Canada. *Canadian Public Administration*, 52(2), 153-175.
- Howlett, M., & Newman, J. (2010). Policy analysis and policy work in federal systems: Policy advice and its contribution to evidence-based policy-making in multi-level governance systems. *Policy and Society*, (29) 123-136.
- Howlett, M., & Craft, J. (2013). Application of Federal Legislation to Alberta's Mineable Oil Sands. Oil Sands Research Information Network. University of Alberta, School of Energy and Environment, Edmonton, Alberta. (33) 1-94.
- Hronek, T., & Lawrence, C. (2014). AER Energy Application Process Overview. In *Alberta Energy Regulator*. Retrieved September 21, 2014, from <http://www.strathcona.ca/files/files/at-pds-aerapplicationprocess.pdf>
- Humphries, M. (2008). North American Oil Sands: History of Development, Prospects for the Future. *Congressional Research Service*, 1-27.
- Jochim, A., & May, P. (2010). Beyond Subsystems: Policy Regimes and Governance. *Policy Studies Journal*, (38) 303-327.

- Jones, R., & Forrest, D. (2010). Oil Sands Mining Reclamation Challenge Dialogue – Report. *OSRIN Report*, (4) 18
- Karr, J. (1991). Biological Integrity-A long-neglected aspect of water-resource management. *Ecological Application*, (1) 66.
- Kelly E., Short J., Schindler D., Hodson P., Ma M., Kwan A., & Fortin B. (2009). Oil sands development contributes polycyclic aromatic compounds to the Athabasca River and its tributaries. National Academy of Sciences of the United States of America 107.
- Lindvall, J. (2009). The Real but Limited Influence of Expert Ideas. *World Politics*, 61(4), 703-730.
- Lindquist, E., and Desveaux, J., (2007). Policy analysis and bureaucratic capacity: Context, competencies, and strategies.” In: Dobuzinskies L, Howlett M, Laycock D (eds) *Policy analysis in Canada: The State of the Art*. Toronto: University of Toronto Press. 116-144.
- Lipsky, M. (2010). *Street-Level Bureaucracy Dilemmas of The Individual In Public Services*. (pp.1-267). New York, NY: Russel Sage Foundation.
- McConnell, A. (2010). Policy Success, Policy Failure, and Grey Areas In-Between. *Public Policy*, 30(3), 345-362.
- Meltsner, A. (1976). *Policy Analysts in the Bureaucracy*. Berkley, CA: University of California Press.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.

- National Energy Technology Laboratory. (2009). Balancing Climate Change, Energy Security, and Economic Sustainability: A Lifecycle Comparison of Diesel Fuel from Crude Oil and Domestic Coal and Biomass Resources. 1-4.
- Natural Resources Canada. (2013). Physical and Chemical Processes. In *Natural Resources Canada*. Retrieved April 10, 2014, from <http://www.nrcan.gc.ca/energy/oil-sands/upgrading/5877>
- Newton, N. (2010). The use of semi-structured interviews in qualitative research: strengths and weaknesses. In *Academia.edu*. Retrieved August 5, 2014, from http://www.academia.edu/1561689/The_use_of_semi-structured_interviews_in_qualitative_research_strengths_and_weaknesses
- Osborne, S. (2010). *The New Public Governance? Emerging Perspective on the Theory and Practice of Public Governance*. New York, NY: Routledge. 1-428.
- Oil and Gas Remediation and Reclamation Advisory Committee. (2004). *Recommendations to Minister*. Edmonton, Canada: Alberta Environment. 1-20
- Oil Sands Research Information Network (OSRIN). (2011). *Equivalent Land Capability Workshop Summary Notes*. Edmonton, Canada: University of Alberta. 1-90.
- Pal, L. (1995). Competing paradigms in policy discourse: The case of international human rights. *Policy Sciences*, 18(2), 185-207.

- Pembina Institute (2008). Environmental Groups Pull Out of Multi-Stakeholder Oilsands Process: Outline Key Steps for Government to Restore Credibility to Environmental Management. Web. 11 Feb. 2015.
< <http://www.pembina.org/media-release/1678>>
- Pembina Institute. (2015). Oil Sands 101. Web. 11 Feb. 2015.
<<http://www.pembina.org/oil-sands/os101>>
- Powter, C., Chymko, N., Dinwoodie, G., Howat, D., Janz, A., Puhlmann, R., & Richens, T. (2012). Regulatory History of Alberta's industrial land conservation and reclamation program. *Canadian Journal of Soil Science*, (92) 39-51.
- Provincial Government of Alberta. (1993). Conservation and Reclamation Regulation. Retrieved December 1, 2013, from http://www.qp.alberta.ca/documents/Regs/1993_115.pdf
- Provincial Government of Alberta. (2000). Public Lands Act. Retrieved December 1, 2013, from <http://www.qp.alberta.ca/documents/Acts/P40.pdf>
- Provincial Government of Alberta. (2010), Environmental Protection and Enhancement Act. Retrieved December 1, 2013, from <http://www.qp.alberta.ca/documents/Acts/E12.pdf>
- Provincial Government of Alberta (2011). Enhancing Assurance Developing an integrated energy resource regulator A Discussion Document. 1-29.

Provincial Government of Alberta. (2012a). *Lower Athabasca Regional Plan* (pp. 1-98). Retrieved December 1, 2013, from <https://www.landuse.alberta.ca/RegionalPlans/LowerAthabascaRegion/Pages/default.aspx>

Provincial Government of Alberta. (2012b). Alberta Environment and Sustainable Resource Development. Retrieved December 1, 2013, from <http://esrd.alberta.ca/Default.aspx>

Provincial Government of Alberta. (2012c). 2012 Mine Financial Security Submissions. In *Annual Mine Financial Security Program Submissions*. Retrieved May 10, 2014, from <http://environment.gov.ab.ca/info/library/8776.pdf>

Provincial Government of Alberta. (2012d). Integrated Resource Management Land-Use Framework. Retrieved February 11, 2015. http://www.oilsands.alberta.ca/FactSheets/LUF_Fact_Sheet.pdf

Provincial Government of Alberta. (2012e). Alberta's Oil Sands Reclamation. Retrieved December 11, 2013. <http://www.oilsands.alberta.ca/reclamation.html>

- Provincial Government of Alberta, (2013). Update Report on Alberta Environment and Sustainable Resource Development's Upstream Oil and Gas Reclamation Certificate Program. Retrieved December 12, 2014.
<http://esrd.alberta.ca/lands-forests/land-industrial/programs-and-services/reclamation-and-remediation/upstream-oil-and-gas-reclamation-and-remediation-program/documents/UpstreamOG-RR-PrgmUpdate-Mar31-2013.pdf>
- Provincial Government of Alberta. (2014). Integrated Resource Management System. Retrieved February 10, 2015.
<http://www.oilsands.alberta.ca/FactSheets/Integrated_Resource_Management.pdf>
- Rayner, J., & Howlett, M. (2009). Introduction: Understanding integrated policy and strategies and their evolution. *Policy and Society*, (28) 99-109
- Rooney, R., & Bayley, S. (2011). Setting reclamation targets and evaluating progress: Submersed aquatic vegetation in natural and post-oil sands mining wetlands in Alberta, Canada. *Ecological Engineering*, 37(4), 569-579.
- Sanderson, I. (2002). Evaluation, Policy Learning, And Evidence Based Policy Making. *Public Administration*, (80) 1-22.
- Shore, C. (2009) European Governance, or Governmentality? Reflections on the EU's System of Government. Retrieved December 12, 2014 From
http://www.wiso.uni-hamburg.de/fileadmin/sowi/conweb/conweb_wiener/2009/conweb_3_2009.pdf

- Stone, D. (2001). Learning lessons, policy transfer and the international diffusion of policy ideas.
- Stitch, A. (2007). Business associations and policy analysis in Canada. In *Policy Analysis in Canada: The State of the Art*, edited by Laurent Dobuzinkis, Michael Howlett, and David Laycock. Toronto: University of Toronto Press.
- Sundquist, J. (1978). Research Brokerage: The Weak Link. *Knowledge and Policy: The Uncertain Connection*, Washington DC: National Academy of Sciences. 126-145.
- Svara J. H. (2006) Complexity in Political-Administrative Relations and the Limits of the Dichotomy Concept. *Administrative Theory & Praxis* 28(1): 121–139.
- Tiernan, A. (2012). Advising Australian Federal Governments: Assessing the Evolving Capacity and Role of the Australian Public Service. *Australian Journal of Public Administration*, 70(4), 335-346.
- U.S. Congress. (1995). Office of Technology Assessment, *Environmental Policy Tools: A User's Guide*, OTA-ENV-634 (Washington, DC: U.S. Government Printing Office, September 1995).
- Vanderklippe, N. (2012). A reality check for the promise of the oil sands. In *Globe and Mail*. Retrieved March 12, 2014, from <http://www.theglobeandmail.com/globe-investor/a-reality-check-for-the-promise-of-the-oil-sands/article4560688/?page=all>

- Vanderklippe, N., Mccarthy, S., & Mcnish, J. (2012). Harper draws a line in the oil sands. In *Globe and Mail*. Retrieved March 12, 2014, from <http://www.theglobeandmail.com/globe-investor/harper-draws-a-line-in-the-oil-sands/article6143202/>
- Wellstead, A., & Stedman, R. (2010). Policy Capacity and Incapacity In Canada's Federal Government: The intersection of policy analysis and street-level bureaucracy. *Public Management Review*, 12(6), 893-910.
- Wellstead, A., & Stedman, R. (2011). Climate change policy capacity at the sub-national government level. *Comparative Policy Analysis; Research and Practice*, 13(5), 461-478.
- Wellstead, A., Stedman, R., & Howlett, M. (2011). Policy analytical capacity in changing governance contexts: A structural equation model (SEM) study of contemporary Canadian policy work. *Public Policy and Administration*, 26(3), 353-373.
- Wellstead, A., & Stedman, R. (2012). The role of climate change policy work in Canada. *Canadian Policitical Science Review*, 6(1), 117-124.
- Wesselink, A., Colebatch, H., & Pearce, W. (2014). Evidence and Policy: discourses, meanings, and practices. *Policy Science*, (47) 339-344.
- Williams, J. (2011). Oil Price History and Analysis. In *WTRG Economics*. Retrieved March 5, 2014, from <http://www.wtrg.com/prices.htm>
- Wood Buffalo Environmental Association. (2014). History & Evolution. Retrieved February 3, 2014, from <http://www.wbea.org/about-wbea/history-a-evolution>

- Woyntlowicz, D., Severson-Baker, C., & Reynolds, M. (2005). Oil Sands Fever The Environmental Implications of Canada's Oil Sands Rush. The Pembina Institute. 1-68. Retrieved February 8, 2013, from <https://www.pembina.org/reports/OilSands72.pdf>
- Wu, X., Ramesh, M., Howlett, M., & Fritzen, S. (2010). *The Public Policy Primer: Managing the policy process*. New York, NY: Routledge. 1-109.
- Yanow, D. (2000). *Conducting Interpretive Policy Analysis*. Thousand Oaks, CA: Sage. (47) 1-120.

Appendix A: Interview Questions and Research Proposal Email

- **Personal:** will show how a person got into their work, what their role is, opportunities they've had to advance, and what it is like to work on this type of project.
- **Overview of reclamation policy** as it articulates in their department of government or within their NGO – will explore the perspectives of policy professionals to reveal their views of what reclamation policy in Alberta actually is.
- **Organization:** these questions will show how a government department or NGO functions—will focus on organizational policy
- **Assessment:** Indirect questions that ask policy professionals to assess how it is all working- reclamation, Government/ NGO / Society interaction, evidence based policy making.

Government Employee Questionnaire

(Personal)

1) Can you tell me what your background is in policy (School. Training, etc...) and opportunities you have had during your government employment to expand your policy expertise?

a) What are some examples of projects you have worked on?

b) How does your agency encourage continues growth for policy professionals?

(Personal / Organization / Overview)

2) Can you explain to me a bit about your role in your current organization, examples of your work with oil sands reclamation, and how you came to work with and understand oil sands reclamation?

(Personal / Overview)

3) Can you explain your understanding of how government, industry, and public perceptions towards reclamation in the oil sands vary within Alberta?

a) What is the role of government in this relationship?

b) How does this affect the way your department addresses oil sands reclamation?

(Personal / Assessment)

4) From your perspective, how is government shaping reclamation in the oil sands? How might future reclamation efforts vary from the current projects within Alberta?

(Organization)

5) What are examples of working relationships, relationships your agency has with government agencies and NGOs, which assist your agency in oil sands reclamation?

- a) No: Would your agency benefit by enlisting the assistance of outside entities?
- b) Who do you recognize as the primary actors within the oil sands?
- c) What do you believe allows these individuals / companies to be the primary actors and do you interact with them?

(Organization)

6) Could you explain how information/ data is disseminated or transferred throughout your Agency? Who collects it and how does it reach decision makers? Can you give an example of how data that will be used to influence reclamation policy would move through your agency?

- a) If unsure about oil sands, how does typical data move through your agency? (gathering, sorting, analyzing, etc.)

(Organization / Overview)

7) How does your department view its mission in the oil sands? To your knowledge is this mission unique from other government agencies?

- a) If so can you provide an example of how your agency is unique in this regard?

(Organization / Assessment)

8) Can you describe to me ways in which your department has adapted to meet changing needs in the oil sands?

- a) policy strategies, networking, evidence based strategies, policy units?

(Assessment)

9) What are examples of effective strategies being used to reclaim disturbed lands in Alberta? What changes could your agency make to better deliver reclamation policy?

- a) Why is the current strategy the best strategy?

(Assessment)

10) Could you describe any areas in oil sands reclamation, or general reclamation, where inconsistencies exist or the government is impeded?

- a) Do you find any inconsistencies with views and actions within your agency? Examples?
- b) Areas to improve if conditions were different?

NGO Questionnaire

(Personal)

- 1) Can you tell me what your background is in policy (School. Training, etc...) and opportunities you have had during your employment to expand your policy expertise?
 - a) What are some examples of projects you have worked on?
 - b) What opportunities has your employer given you to advance your policy knowledge?

(Personal / Organization / Overview)

- 2) Can you explain to me a bit about your role in your current organization, examples of your work with reclamation / oil sands reclamation, and how you came to work with and understand reclamation / oil sands reclamation?

(Personal / Overview)

- 3) Can you explain your understanding of how government, industry, and public perceptions towards reclamation in the oil sands vary within Alberta?
 - a) How does this affect the way your organization addresses oil sands reclamation?
 - b) How do you view the role of government in this relationship?
 - c) How do you view the role of NGOs in this relationship?

(Personal / Assessment)

- 4) From your perspective how are NGOs shaping reclamation and reclamation policy in Alberta? How will future reclamation efforts vary from current projects in Alberta?

(Organization)

- 5) What are examples of working relationships, for reclamation / oil sands reclamation, that your agency has with other NGOs and Government Agencies?
 - a) Does the government value the inputs of NGOs?
 - b) How do NGOs impact oil sands reclamation?
 - c) Who do you recognize as the primary actors within the oil sands?
 - d) What do you believe allows these individuals / companies to be the primary actors and do you interact with them?

(Organization)

6) Could you explain how information/ data is disseminated or transferred throughout your organization? Can you give an example of how data that will be used to influence reclamation policy would move through your agency or to decision makers?

a) If unsure about oil sands, how does typical data move through your agency / to decision makers? (gathering, sorting, analyzing, etc.)

(Organization / Overview)

7) How does your organization view its mission in the oil sands? To your knowledge is this mission unique from other NGOs?

a) Does your agency view reclamation in the oil sands differently than government agencies?

b) Can you provide an example of how your agency is unique in this regard?

(Organization /Assessment)

8) Can you describe to me ways in which your agency has adapted to meet changing needs in the oil sands?

a) Policy strategies, networking, evidence based strategies, policy units?

(Assessment)

9) What are examples of effective strategies being used for reclamation in Alberta? What changes could your agency make to better impact reclamation in Alberta?

a) Why is the current strategy the best strategy?

(Assessment)

10) Could you describe any areas in reclamation / oil sands reclamation where inconsistencies exist or where NGOs are impeded?

a) Do you find any inconsistencies with views and actions within your agency? Examples?

b) Areas to improve if conditions were different?

Research Proposal Emailed to: Alberta Government and Non-Governmental Organizations involved in oil sands reclamation policy.

My name is Tyler Patterson and I am a master's candidate in the environmental and energy policy program at Michigan Technological University. The goal of my M.Sc. thesis is to assess policy capacity for government and non-government organizations working with oil sands reclamation. I will be working closely with my advisor Dr. Adam Wellstead who has tremendous experience conducting policy capacity research in Canada.

Dr. Adam Wellstead (Michigan Technological University) and Dr. Richard Stedman (Cornell University) examined climate change policy capacity and evidence based policy in their 2010 study of the Canadian finance, forestry, infrastructure, and transportation sectors and a 2005 study of climate change work in the Alberta government (Wellstead & Stedman, 2011, 2012). Alberta Environment sponsored the latter project while Dr. Wellstead worked for Natural Resources Canada.

In both studies the following common types of variables were measured:

- Work environment (e.g., member of a policy unit, number of years employed)
- Tasks performed (e.g., advising, collecting information, assessing options etc)
- Policy tools employed (e.g. briefing, cost---benefit analysis, risk analysis)
- The level of perceived policy capacity
- Degree of and understanding of evidence---based policy work
- Level of engagement outside of the government
- Policy---based attitudes
- Policy training experience
- Demographic information

This proposed study is part of my M.Sc. thesis at Michigan Technological University, supervised by Dr. Adam Wellstead, Dr. Carol MacLennan, and Dr.

Rodney Chimner. This research is unlike previous policy capacity studies, because the aim is to assess both government and non-government policy capacity associated with oil sands reclamation. For this project the most appropriate method for assessing policy capacity will be to interview senior employees at select organizations involved in oil sands reclamation. Using a similar approach to Dr. Wellstead's study with Alberta Environment and ACAT, I am requesting that your organization provide the contact names and email addresses of their senior policy-based employees. The interview, will take no more than 1 hour to complete and can be conducted over the phone, skype, or in person at their convenience. I will be asking questions examining the frequency of tasks and tools employed, the nature of their work, interaction with other agencies and outside groups, the frequency of oil sand reclamation issues addressed, evidence base policy approaches employed, and the attitudes towards policy-making. The data will be analyzed, interpreted, and presented in my M.Sc. thesis. The respondents' identities will remain anonymous and the data examined in aggregate.

Reporting of Results

The results of this study will be disseminated in my M.Sc. thesis, a report to your agency, a presentation at the Western Social Science Association conference, and a scholarly article.

Timeline

- **January – August 2013**- Conduct background research, Develop Proposal.
- **September 2013 – January 2014** - Present Proposal, Develop interview script, Identify interviewees, and Continue Research.
- **February 2014** – Conduct Interviews and Continue Research.
- **March - October 2014** – Analyze data, Compile results, Write up.
- **November 2014** – Present results – Master's Thesis Defense. (Houghton, MI)
- **December 2014** – Present Results at 56th Annual Western Social Sciences Association Conference. (Albuquerque, NM)

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Appendix B: Updated Reclamation Steps with December 2012 Land Area Statistics

Reclamation Reporting

The eight reclamation statuses include: Cleared, Permanent Reclamation, Temporary Reclamation (Wetlands and Aquatics), Permanent Reclamation (Terrestrial) Soils Placed, Ready for Reclamation, Disturbed, and Cleared.

Certified Reclaimed - 104 hectares

Area meets strict requirements for reclamation, then AER will issue final certification and the land is returned to the Crown as public land. To date, only one parcel of land, Gateway Hill, has been deemed certified reclaimed.

Permanent Reclaimed - 5,042 hectares

An area is deemed permanently reclaimed if permanent landforms are constructed and soil with vegetation is in place. This is true for terrestrial and aquatic restorations. Native species specific to the area disturbed must be replanted. The soils and plant growth will be monitored for 15 or more years. Finally, once there is a determination that a positive ecological trend has been achieved, the company may apply for a reclamation certification.

Temporary Reclaimed - 1,227 hectares

An area may be considered temporarily reclaimed if some of the disturbed area has been revegetated, although this area may again be disturbed.

Soils Placed - 1,447 hectares

This status is used to describe an area that has soils placed as directed by

a reclamation and soil placement plan, which is approved by regulators.

Ready for Reclamation - 372 hectares

An area is ready for reclamation if that area is no longer required for mining operations, but reclamation activities have yet to begin.

Disturbed - 55,902 hectares

Land is still being utilized for mining operations.

Cleared - 20,435 hectares

Vegetation has been removed from landscape, but soil layers remain intact. Mining operations have not yet commenced.

(Provincial Government of Alberta, 2012e)