Strategic Non-Renewable Resource Governance: A History of Alberta Oil Sands Royalty Regulations, Public Finances, and Global Oil Markets

By

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Abstract

The following thesis examines Alberta oil sands royalty regulations and public finances across different stages of oil sands development and oil price fluctuations from 1967 to 2014. The main emphasis of this thesis is on how Progressive Conservative governments managed the collection, saving, and distribution of economic rent through the design of oil sands royalty regulations and the spending and saving of royalty revenue. The design of oil sands royalty regulations shaped the degree of economic rent collected by the government, and in turn the amount of non-renewable resource revenue available for managing public finances. Economic rent is understood as the public's share of economic benefits from non-renewable resource development, and the difference between the price a non-renewable resource can be sold for on commodity markets and the total discovery, production, and opportunity costs. The complex history of economic rent and oil sands development is detailed in relation to commodity markets and fiscal regimes in Alberta since 1967. Progressive Conservative premiers Peter Lougheed, Don Getty, Ralph Klein, and Ed Stelmach each approached the design of oil sands royalty regulations and management of public finances with the goal of encouraging private investment in oil sands development. Differences in the management of public finances are revealed through examination of the boom and bust economic fluctuations of the oil industry as well as Alberta's reliance on volatile oil markets. Progressive Conservative governments viewed the oil sands industry as the main source of economic opportunity for Alberta, and development of this industry was prioritized in the design of royalties and the management of public finances.

For Mom, Dad, and Family

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List of Abbreviations

AIMCo	Alberta Investment Management Corporation
AOSTRA	Alberta Oil Sands Technology and Research Authority
API	American Petroleum Institute
BRIK	Bitumen Royalty In-Kind
CNRL	Canadian Natural Resources Limited
CPA	Canadian Petroleum Association
GRF	General Revenue Fund
GCOS	Great Canadian Oil Sands
ICE	InterContinental Exchange
NEB	National Energy Board
NOSTF	National Oil Sands Task Force
NYMEX	New York Mercantile Exchange
OSST	Oil Sands Severance Tax
OPEC	Organization of Petroleum Exporting Countries
PADD	Petroleum Administration for Defense Districts
SAGD	Steam Assisted Gravity Drainage
UFA	United Farmers of Alberta
WTI	West Texas Intermediate
WCS	Western Canadian Select

Chapter I: Strategic Governance

Introduction

As a citizen of Canada and Alberta, I am an owner of the natural resources located in the ground. I have a right to a share of the economic rent collected by the government from private industry. Economic rent can be considered the difference between the price a natural resource can be sold for and the total discovery, extraction, production, and opportunity costs for investing in projects of significant risk and scale.[1] The government, acting on behalf of the citizens, collects a share of this economic rent as managers and owners of the natural resource. The economic benefits of the resource economy are a ubiquitous part of society in Alberta and across Canada, as economic rent permeates the economy and public life through state expenditures, investments in financial markets, and the processes of industrialization and commodification. The public and private companies lease the land for the purpose of exploring, extracting, producing, and marketing the resource. The government collects economic rent through lease agreements, royalties, taxes, and other fiscal policies. Once the government has collected economic rent, politicians and non-governmental institutions assigned responsibility for managing the public's resource wealth, prioritize how economic rent will be distributed. Public services that Albertans and Canadians use every day are financed by economic rent and other sources of public revenue. This masters thesis will attempt to detail the complex history of economic rent, commodity markets, and fiscal regimes in Alberta since 1967. The focus throughout will be on the Government of

[1] Jack Mintz and Duanjie Chen, "Capturing Economic Rents From Resources Through Royalties and Taxes," *The School of Public Policy* 5,30 (2012): 4.

Alberta's management of oil sands royalty regulations and revenue, and the premiers that made decisions based on changing economic and political circumstances.

Building on the premise of natural resources as government property and a source of economic rent, it is important to acknowledge different state approaches to conventional and unconventional non-renewable resource development. In this masters thesis I build on the understanding of a natural resource as part of the natural environment that is modified and used by human society.[2] I split natural resources into either renewable or non-renewable resources. A renewable resource is a natural resource that is perpetual, and readily replenished relative to the rate of extraction and natural processes. A non-renewable resource is by contrast a natural resource that is not replaced on a continuous basis or is replaced only very slowly.[3] Fossil fuels are the focus of this thesis, and are considered non-renewable resources, because the rate of their resource production is greater than the rate it takes for plant and animal matter to decay and create additional fossil fuels.[4] Examples of fossil fuels include petroleum, coal, and natural gas. Within the category of petroleum fossil fuels and non-renewable resources, I also differentiate between conventional and unconventional oil. Conventional oil is relatively easy to extract and develop because of accessibility. By contrast unconventional oil is difficult to extract and develop because of added challenges related to the complexity of carbon molecules, location of the resources below ground, impermeable geological characteristics, or additives that wear down

[2] William M. Marsh and John Grossa Jr., *Environmental Geography: Science, Land Use and Earth Systems* (New York: Wiley, 2004).

[3] T.K. Ghosh and M.A. Prelas, *Energy Resources and Systems: Fundamentals of Non-Renewable Resources* (Berlin: Springer Science: 2009), 2.

[4] Ibid.

machinery at a higher rate. In Alberta there has been a marked difference between the history of light crude oil and oil sands. Both are considered non-renewable resources, but have significantly different geological and chemical characteristics. Furthermore, as will become clear throughout this masters thesis, a history of the oil sands reveals different state-private industry relationships as well as added financial challenges created on commodity markets.

The monetary values of fossil fuels are determined by financial markets, which take into consideration multiple factors when pricing commodities. The non-renewable resources of oil, natural gas, coal, and oil sands form a significant portion of Alberta's budget and economy. While the conventional oil industry was the main source of economic rent prior to the early 1990s, the oil sands sector subsequently emerged as the larger source of provincial revenue from non-renewable resource development. The Alberta government has primarily collected economic rent from the oil sands industry through royalty provisions. Over time, the oil sands royalty regime has been modified in relation to the stages of oil sands development, changing commodity markets, and political and economic circumstances.

Methodology and Historiography

My examination of royalty regulations, global oil markets, and public finances in Alberta is informed by multiple disciplines. The methodology used in this masters thesis blends political economy, commodity chain analysis, and staples theory. The primary method of analysis is the political economy approach to state resource development decisions. The commodity chain analysis is used to place the political economy approach

and history of Alberta oil sands royalty regulations within the context of global commodity and financial markets. Commodity chain analysis allows this masters thesis to look beyond provincial boundaries to the interconnected resource extraction sites and markets on a global scale. As for staples theory, I use the literature on staples resource economies to examine larger problems of non-renewable resource development and the reliance on non-renewable resources for economic growth and government revenue. All three approaches share an emphasis on the structures of the economy, the importance of markets, and the role of the business-industry relationship in shaping political decisions and changes over time.

A political economy approach examines the relationship between government and industry in economic development and governance. H. V. Nelles' *The Politics of Development* is an excellent example of how a political economy approach can be used to understand the role of the state in natural resource development.[5] In his consideration of Ontario between 1849 and 1941, Nelles focuses on the influence of market dynamics, public pressure, and business interests on government decision-making. On the topic of economic rent, Nelles demonstrates how taxation was used to promote resource extraction by attracting developers through favourable fiscal regimes. Nelles argues that fiscal policy should instead be used primarily as a "tool to claim the public's share of resource development on state owned property."[6] While Nelles examined the resource economies of lumber, minerals, and hydro, Larry Pratt and John

[5] H.V. Nelles, *The Politics of Development: Forests, Mines and Hydro-Electric Power in Ontario, 1849-1941* (Montreal and Kingston: McGill-Queen's University Press, 2005).
[6] Ibid., 153.

Richards applied a political economy approach to Alberta's oil and gas economy. In *Prairie Capitalism,* Pratt and Richards emphasize the importance of political ideology, business interests, and the distribution of power in federal-provincial relations in Alberta prior to the 1970s. Alberta designed oil and gas regulations to reduce risk and encourage foreign investment. For Pratt and Richards, the maximization of economic rent was a secondary political issue for the Alberta government, which only emerged in the 1970s as "bargaining over oil and gas rents displaced the goal of increased market access or debates over physical conservation and portioning."[7] By using a political economy approach, royalty regulations can be separated into two core components: capturing economic rent through taxation, and distributing economic rent through public saving and spending. Although this masters thesis focuses separately on capturing and distributing economic rent, both components are part of a larger government strategy for managing non-renewable resource development.

Commodity chain analysis involves examining industries as a linked set of activities that often cross multiple jurisdictional boundaries in a regionalized but globally connected economy.[8] The growing field of environmental history influenced the method of commodity chain analysis used in this masters thesis. Matthew Evenden has applied a commodity chain analysis to examine how periods of warfare created conditions that led to the production and transportation of aluminum commodities over great distances

[7] John Richards and Larry Pratt, *Prairie Capitalism: Power and influence in the New West* (Toronto: McCellend and Stewart Limited, 1979), 46.

[8] Paul Ciccantell and David A. Smith, "Rethinking Global Commodity Chains: Integrating Extraction, Transport, and Manufacturing," *International Journal of Comparative Sociology* 50 (2009): 368.

for the purpose of delivering scarce military goods to combat zones.[9] Evenden demonstrates how resource extraction sites can be understood within a superstructure of "corporate organization, capital investment," and political decision-making.[10] A commodity chain analysis allows for tracing the connections between extraction sites and financial markets. A futures market in particular is the central financing institution for trading commodities. On futures markets private and public companies and investors purchase a futures contract that represents a standard quality and quantity of a commodity to be delivered at a scheduled date following the transaction. In *Nature's Metropolis,* William Cronon examined in great detail the emergence of a grain futures market in Chicago, Illinois in the late 1870s. Cronon notes how grain traders in Chicago severed physical grain from nature to create a liquid, homogenous, and abstract commodity that could be traded between buyers and sellers.[11] I build on Cronon's analysis of futures markets and staples theory.

This thesis can be placed within the literature of staples theory, as an argument in Chapter four is presented that Alberta's oil sands resource economy both subverts and conforms to the characteristics of a staples trap. Academic research on staples theory is largely influenced by the writings of Harold Innis. Writing in the 1920s and 1930s, Innis described the connections between Canadian resource industries and political evolution.[12] Innis identified a pattern of how resource economies, population

[9] Matthew Evenden, "Aluminum, Commodity Chains and the Environmental History of the Second World War," *Environmental History* 16 (2011): 69.
[10] Ibid., 80.
[11] William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York and London: W. W. Norton & Company, 1992), 45.
[12] Harold Adams Innis and Daniel Drache, *Staples, Markets, and Cultural Change Selected Essays* (Montreal

centers, and political institutions emerged.[13] Building on Innis' writings, Mel Watkins revisited the staples theory in the 1950s and 1960s, presenting an alternative perspective that identified points of change. In a staples trap, massive investments in the extraction of one single resource prevent the economy from diversifying, thus creating long-standing financial debt once the raw staple is depleted.[14] An economy in a staples trap is exposed to structural imbalances from external demands as well as price distortions caused by boom-and-bust business cycles.[15]

On the topic of Alberta's conventional oil and gas industry, David Breen's *Alberta's Petroleum Industry and the Conservation Board* is an extensive history of the Energy Resource Conservation Board and the impact regulators and policymakers had on non-renewable resource development.[16] Breen argues that the Board was first created with the mandate of preventing a free-enterprise mentality from eroding public interest. Conservation regulations were meant to ensure the maximum recovery of oil through intelligent, or staged, development and production practices. [17] Breen provides useful insight for understanding Alberta's conventional oil and gas regulatory regime prior to oil sands development.

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and Kingston: McGill-Queen's University Press, 1995), 12.

[13] Innis and Drache, 12.

[14] Tony Clarke et al., "The Bitumen Cliff: Lessons and Challenges of Bitumen Mega-Developments for Canada's Economy in an Age of Climate Change," *Canadian Centre for Policy Alternatives* (2013): 18.

[15] Daniel Drache, "'Rowing and Steering' Our Way Out of the Modern Staples Trap," in *The Staples Theory @ 50: Reflections on the Lasting Significance of Mel Watkins' "A Staples Theory of Economic Growth,"*ed. Jim Stanford (Ottawa, Canada: Canadian Centre for Policy Alternatives, 2014): 59.

[16] David H. Breen, *Alberta's Petroleum Industry and the Conservation Board,* (Edmonton: University of Alberta Press, 1993). Breen was commissioned by the Energy Resource Conservation Board to write this history.

[17] Ibid., 243 and 551.

Paul Chastko's *Developing Alberta's Oil Sands* examines oil sands history, [18] with a detailed focus on the role of the state in resource development, the close ties between the oil industries of Canada and the United States, and the competitive nature of the global oil market.[19] In a similar fashion to Breen's *Alberta's Petroleum Industry and the Conservation Board,* Chastko uses descriptive analysis to produce a far-reaching and detailed history of Alberta's oil sands industry. Overall my approach to examining royalty regulations, global oil markets, and public investment builds from the political economy literature and historiography of Alberta's oil and oil sands industry. I contribute to the historiography through a much more focused examination of economic rent, commodity markets, and public finances in the period after 1967.

The primary source material used as the research base for this thesis was a mix of archival material, legislation, newspapers, periodicals, and annual reports. Archival records proved useful for collecting information on the changing role of Progressive Conservative governments in oil sands development and regulation. I engaged in intensive archival research on records obtained from the Provincial Archives of Alberta and the Glenbow Archives. Archival records used by this thesis included primarily correspondence between the province and private industry from the time period after 1967. Records from the Department of Energy and Natural Resources Fonds at the Provincial Archives held important information on the economic analysis and forecasting that preceded amendments of the oil sands royalty regulation, which was useful for

[18] See Larry Pratt's *Tar Sands: Syncrude and the Politics of Oil* (Edmonton: Hurtig, 1976) for an earlier interpretation of government-corporate negotiations and oil sands development during the 1960s and 1970s.

[19] Paul Chastko, *Developing Alberta's Oil Sands: From Karl Clark to Kyoto* (Calgary: University of Calgary Press, 2007), xiv.

framing government expectations for oil sands development and non-renewable resource revenue. The Canadian Petroleum Association Fonds from the Glenbow Archives contained information on industry advocacy efforts and government negotiations of crown agreements. Additional archival research at the Library and Archives of Canada in Ottawa was not required, since the focus of this thesis was not on the changing role of the federal government in oil sands development and governance.[20]

This thesis examines in great detail the design of oil sands royalty regulations. The original crown agreements and regulations were publically available through the online research repository of the Alberta government. By examining the specific rules and requirements outlined in the original crown agreements and regulations created in 1967, 1978, 1997, and 2007, I was able to trace changes to the collection of economic rent through different royalty rates, as well as government mechanisms created to support oil sands development through royalty credits and allowed costs. The design of royalty regulations shaped the degree of economic rent collected by the Alberta government, and in turn the amount of non-renewable resource revenue available for public spending and saving.

Budgetary reports obtained through online research repositories provided additional insight for tracing the movement and fluctuation of economic rent in the form of monetary capital. Alberta Treasury and Finance Board annual reports from 1993

[20] Paul Chastko's *Developing Alberta's Oil Sands* details the gradually reduced role of the federal government in oil sands development and regulation. See Chapter Two "Abasands and the Federal-Provincial Conflict" and Chapter Seven "The Lost Decade: The National Energy Program and the Collapse of World Oil Prices."

to 2010 revealed how Progressive Conservative premiers Ralph Klein and Ed Stelmach managed the province's fiscal regime, based on the changing income from non-renewable resource revenue. The annual reports of the Alberta Heritage Savings Trust Fund (Heritage Fund) provided direct evidence of how, across different time periods, the government prioritized the saving of non-renewable resource revenue. To complement Heritage Fund records of government saving, I used annual reports of the Alberta Investment Management Corporation (AIMCo) from 2009 to 2013 to identify the indirect methods that non-renewable resource revenue was spent through investments on financial markets.

Newspapers and periodicals released during the time periods examined were useful for framing changes to oil sands development, royalty regulations, and the province's fiscal regime. Although public perception was not a focus of this thesis, the *Edmonton Journal* and *Calgary Herald* were particularly useful for collecting additional details on Alberta general elections, and the public's reception of royalty regulations and provincial budgets.

Main Argument

The main arguments of this thesis are organized into three chapters, which cover different themes and overlapping time frames. Chapter two focuses on the linked set of activities connecting Alberta's oil sands to regional and global oil markets. Oil markets and oil sands development practices described in Chapter two significantly influenced the decision-making of Progressive Conservative governments when designing royalty regimes and managing public finances. Specifically the amount of rent collected from

government royalties fluctuated depending on the price of oil, the demand for commodities on financial markets, and the monetary costs spent towards developing bitumen. The historical context of changing oil prices frames the decision-making of Progressive Conservative governments that were faced with volatile royalty revenue and an overreliance on boom-and-bust business cycles. Building from an understanding of the oil sands commodity chain, Chapter three focuses on how and why Progressive Conservative governments designed oil sands royalty regulations. During the early stages of oil sands development, premiers Peter Lougheed and Don Getty managed a royalty regime based on project-by-project crown agreements with royalty credits and joint public-private ownership to support and promote oil sands development. In the early 1990s Premier Ralph Klein transitioned the royalty regime to a generic royalty regulation with set royalty rates based on bitumen rather than synthetic crude oil. Under Klein the province took on greater responsibility as a regulator, but maintained the role of promoter by offering preferential tax treatment. With an interest in expanding the profit sharing capacity of the province, Premier Ed Stelmach amended the Oil Sands Royalty Regulation to a price sensitive model that was designed to collect greater royalty revenue for the province during periods of high oil prices. Lastly Chapter four is on different Progressive Conservative government strategies for spending and saving royalty revenue. The industrial practices and oil sands projects described in Chapter two emerged in relation to government spending, as subsidies were used to support and advance methods of resource extraction. Outside of direct subsidies, Progressive Conservatives saved and spent royalty revenue through the Heritage Fund

and AIMCo. Created in 1976, the history of the Heritage Fund reveals how Progressive Conservative premiers managed non-renewable resource revenue under changing economic circumstances. Although Stelmach created AIMCo in 2008, the short history of this organization was important for revealing how royalty revenue was spent on financial markets to provide indirect monetary support for oil sands companies.

This thesis will reveal Progressive Conservative government strategies for encouraging oil sands development through the collection and distribution of economic rent in the context of changing global oil markets between 1971 and 2011. The main argument is that different Progressive Conservative governments encouraged private investment in the oil sands through favourable royalty regimes, direct subsidization of industry operations, and the indirect use of financial market mechanisms to support oil sands companies. While regulations shaped the rate of oil sands development by setting rules for how government taxes were to be collected, public financing and investments encouraged specific industry practices and expansions through monetary support. Progressive Conservative governments since 1971 viewed the oil sands industry as a main source of economic opportunity, and development of this industry was prioritized in the design of tax policies and the management of public finances. Tax policies and public finances were managed in relation to the price discounts of bitumen and synthetic crude oil on global oil markets. Citizens of Alberta are the owners of a large and valuable natural resource, and this thesis will demonstrate the complex and changing history of how this non-renewable resource was industrialized, commoditized, and managed by government decision-makers across varying economic circumstances.

Chapter II: Oil Sands Commodity Chains and Global Oil Markets

Commodity chain analysis involves examining industries as a linked set of activities that often cross multiple jurisdictional boundaries in a regionalized but globally connected economy.[21] For historian Matthew Evenden a commodity chain is "the linked labour and production processes involved in the making of a commodity from production to finished good."[22] A commodity chain includes the transportation networks moving semi-processed and finished goods from sites of resource extraction to markets for retail and industrial consumption. The market itself also shapes the structure of the commodity chain, by encouraging the processing of certain high value commodities and the transportation of these commodities to markets with the greatest demand. Commodity markets shape the end destination of the commodity chain, as developers will move goods to users offering the highest price.

The adapted commodity chain analysis used in this Chapter is solely concerned with crude oil, and the varieties of liquid transportation fuels that can be produced from the final process of commodification. The reason for this focus is because of the large size of the liquid transportation fuel industry in Alberta, compared to the petrochemical industry. This thesis does not explore the history of the petrochemical industry, or the size of the industry in comparison to the liquid transportation fuel industry. The crude oil commodity chain in general produces such finished commodities as jet fuel, gasoline, petrochemical products, and asphalt.

[21] Ciccantell and Smith, 368.
[22] Evenden, 70.

The oil sands commodity chain is connected to a vast resource industrialization complex consisting of various extractive regimes, transportation systems, and financial institutions. In particular the oil sands commodity chain flows through the following linked sets of activities: extraction sites (in-situ, surface mining), processing facilities (separation, upgrading, refining), transportation networks (pipelines, railcars, tankers, trucks, barges), and retail and industrial consumption (airplanes, boats, cars, factories, homes). My analysis of the oil sands commodity chain does not examine external extraction sites located along the supply chain.[23]

By exploring the movement of crude oil along the oil sands commodity chain this Chapter will identify the main factors that have influenced the oil sands development strategies of Progressive Conservative governments in Alberta. It is important to understand the financial and technical problems faced by the Alberta oil sands industry within a historical and international context in order to determine why and how different Progressive Conservative governments attempted to encourage oil sands development. The main argument of this Chapter is that oil sands geology, geographic location, and changing global oil markets shaped how premiers Peter Lougheed, Ralph Klein, and Ed Stelmach approached oil sands development. Although Lougheed, Klein, and Stelmach are not the focus of this Chapter, the issues raised across the oil sands commodity chain will contextualize why the different Progressive Conservative

[23] Supply chain analysis would involve examining external sites where various raw materials are located for the creation of entirely separate commodities, consider the lumber and energy needed to build, assemble and power machines, infrastructure and service equipment. A supply chain analysis is important for connecting commodities to multiple extraction sites where supplies originate. However while both supply chain analysis and commodity chain analysis connect locations across geographic divides, a supply chain is a much larger web connected with multiple commodities.

governments designed tax policies and managed public finances to encourage oil sands development. Crude oil produced from the oil sands has faced a price discount because of decreases in resource quality and the distance for transporting crude oil from northern Alberta to oil markets. The different approaches of the Progressive Conservative governments to overcome these problems and secure continued oil sands development become clear after first examining the characteristics and history of the oil sands commodity chain.

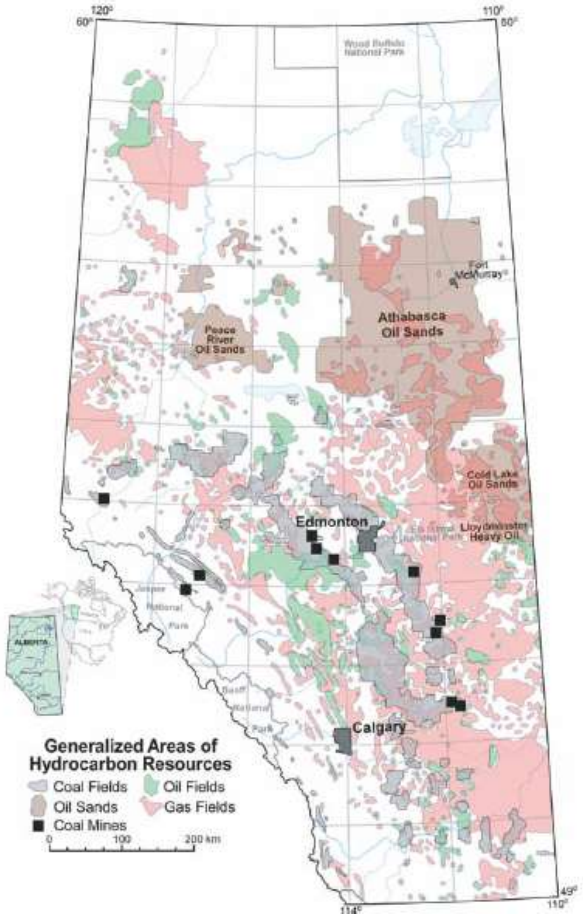

Figure 1: The above map displays the three main bitumen deposits in Alberta, Canada. The depth and quality of the bitumen varies depending on the region. The deposits in Athabasca are closer to the surface and more densely concentrated.

Source: Energy Resource Conservation Board, *Alberta's Energy Industry An Overview* (Edmonton: Energy Resource Conservation Board, 2012).

Non-Renewable Resources in Northern Alberta

The local profoundly shaped the global within the oil sands commodity chain, as a variety of location and resource specific characteristics influenced the strategies of global firms and governments.[24] Across northern Alberta there were three oil sands reserves located at Athabasca, Cold Lake, and Peace River (Figure 1). Certain natural resources, such as the oil sands, have proven difficult to commercialize, because of the often-inhospitable weather conditions, difficult to navigate terrain, and the physical separation from metropolitan centers. Each of the three oil sands reserves have unique operating and transportation costs because of the quality of the bitumen being extracted, the depth and size of the reserves, and the proximity and connection to processing facilities.

During the process of commodification natural resources are severed from physical locations and categorized based on quality to create liquid, homogenous, and abstract commodities for trading on an open futures market. Environmental historian Liza Piper has argued that the first step in natural resource exploitation is the creation of commodities that divorce end products from local nature.[25] In the oil industry, different crude oils are separated to identify those that are most suitable for making certain petroleum products. The American Petroleum Institute (API) gravity index is the traditional and standardized method that was used for separating crude oils based on viscosity. Viscosity is the ability of a liquid to flow, in which higher viscosity indicates resistance to fluid movement compared to lower viscosity. Bitumen is the crude oil

[24] Ciccantell and Smith, 362.
[25] See Liza Piper, *The Industrial Transformation of Subarctic Canada* (Vancouver: UBC Press, 2009), 283.

variant located in Alberta's oil sands. Bitumen has an extremely high viscosity, and is often compared to molasses at room temperature.[26] Indeed when first studied by research scientists from the Government of Canada's Mines Branch in the 1910s, the primary use for bitumen was determined to be paving material for roadways and rooftops.[27] In comparison, condensates were considered extra-light crude oil with low viscosity, and as a result were often referred to as "the champagne of crude oils."[28] The API gravity index for bitumen was between 5° and 9°, whereas condensate or extra-light crude oil had an API greater than 50° (Figure 2).

API Crude Oil Density Classification	**API Gravity**
1. Condensate/Extra-light	>50°
2. Light	40-50°
3. Intermediate/Medium	30-39°
4. Medium-heavy	25-29°
5. Heavy	<25°
6. Extra-heavy	<10°

Figure 2: The above table displays the API density classification of different crude oils and the corresponding gravity index.

Source: Morgan Downey, *Oil 101* (New York: Wooden Table Press LLC, 2009), 33.

Since refineries value crude oils differently, low quality crude oils along the API density classification have faced different challenges than crude oil of a higher quality. For a refinery the higher the API "the more easily it will generate a larger portion of gasoline" since light oil can be diluted to create highly valued finished commodities.[29] Companies that supply heavy crude oil, such as the oil sands, are put at a disadvantage,

[26] Piper, 283.
[27] S.C. Ells, *Preliminary Report on the Bituminous Sands of Northern Alberta* (Ottawa: Government of Canada, 1913), 30.
[28] Morgan Downey, *Oil 101* (New York: Wooden Table Press LLC, 2009), 41.
[29] Ibid.

because of decreases in quality. During crude oil processing, "the hydrocarbons are sorted, split apart and reassembled, blended at refineries and petrochemical plants before they can be used in many products ranging from gasoline to synthetic rubber to jet fuel."[30] Other characteristics, such as distillation profile, acidity, and the degree of nitrogen, carbon, and sulphur content also influence how refiners evaluate which crude oil to purchase and how to calibrate refinery equipment. Bitumen in particular consisted of large amounts of sulphur compounds compared to lighter crude oil variants. The presence of sulphur in bitumen has reduced the demand from refineries, since sulphur decreases the energy content of crude oil by displacing hydrocarbon molecules. Sulphur also corrodes metal piping, tanks, and machines. Due to the environmental challenges of extracting bitumen, and the low-quality crude oil characteristics of the bitumen being extracted, the oil sands industry has faced two important financial challenges: expensive operating costs, and a price discount in regional oil markets when competing against supplies of light crude oil.

Upstream: Oil Sands Extraction and Upgrading

Having examined the local conditions and resource characteristics specific to the oil sands, the next step is to examine the various techniques and technologies of extraction and processing regimes in Alberta. Sociologist Stephen Bunker argues that

[30] National Energy Board, *Crude Oil and Petroleum Products: The Canadian Industry* (Ottawa: National Energy Board, 2013). Accessed online at: http://www.neb-one.gc.ca/clf-nsi/rnrgynfmtn/prcng/crdlndptrlmprdcts/cndnndstr-eng.html

commodities "can emerge only from locally based extractive and productive systems." [31] The oil and gas industry as a whole is commonly separated into three distinct streams: upstream, midstream, and downstream. The streams similarly represent links along the commodity chain. Upstream is the exploration and production of crude oil, midstream is the transportation network, while downstream is the refining, distribution, and retailing. Through a historical perspective that briefly identifies key actors, technologies, and events, it is possible to understand the evolving historical context related to oil sands development. Institutional and industry decision-making in Alberta's oil sands were influenced by significant economic, technical, and political factors that structured how extractive and processing regimes emerged.

Bitumen from Alberta's oil sands has been extracted from two methods: in-situ and surface mining. The first two commercially successful oil sands projects at the Great Canadian Oil Sands (GCOS) and Syncrude were surface mines. As described by the Alberta Research Council in 1975, surface mining operations involved the following processes: first, the land was cleared of all overburden;[32] second, the bitumen was extracted by heavy machinery, put through the hot-water separation process, and then upgraded before being transported to refineries; and lastly all effluent tailings[33] were

[31] Stephen Bunker, "Modes of Extraction, Unequal Exchange, and the Progressive Underdevelopment of an Extreme Periphery: The Brazilian Amazon, 1600-1980," *American Journal of Sociology* 10, 5 (1984): 1017.

[32] Overburden is the area lying above bitumen reserves, which can include trees, rocks, soil, peat moss, swamps, etc.

[33] Tailings are made up of natural materials including water, fine silts, residual bitumen, salts and soluble organic compounds. Tailings also include any chemical solvents used in the separation of bitumen from water.

disposed into large ponds, and sulphur[34] separated from bitumen during upgrading is recovered for potential buyers.[35] When GCOS officially began operations in 1967, the company invested $235 million to build an oil sands industrial complex, capable of producing an average 51,000 barrels of synthetic crude oil daily. [36] In comparison, Syncrude's plant was a $2 billion investment, with an industrial complex capable of producing 200,000 barrels of synthetic crude oil per day. The Syncrude plant went into operation in 1978. With the start-up of new plants, total production from surface mining would reach 300,000 barrels per day by 1989.[37]

While surface mining was the recovery of bitumen at or just below the Earth's surface, in-situ or in-place operations extracted bitumen by subsurface drilling. In-situ extraction varied between different processes: cold heavy oil production with sand (CHOPS), cyclic steam stimulation (CSS), and steam-assisted gravity drainage (SAGD). SAGD in particular was the drilling of two parallel horizontal wells, in which one well injects steam to increase the fluidity of bitumen so that the second well can pump the liquid crude oil above ground. Oil producers and research scientists tested in-situ methods beginning in the 1920s, but attempts to lower heating units into the bottom of wells failed repeatedly to distil oil from the bituminous sands.[38] SAGD was first demonstrated as technologically and commercially feasible in the early 1990s. A

[34] Sulphur is used as a supply for the manufacturing of such commodities as fertilizer.
[35] A. R. Allen and E. R. Sanford, "The Great Canadian Oil Sands Operations," in *Guide to the Athabasca Oil Sands Area*, ed. M.A Carrigy and J. W. Kramers, (Edmonton: Research Council of Alberta, 1975), 105.
[36] Ibid., 101.
[37] Ronald A. McIntosh and Kenneth N. Beckie, "Western Canada Heavy Oil, Tar Sands Resources," *Oil and Gas Journal* 87,29 (1989), 73.
[38] M. A. Carrigy, "Historical Highlights," in *Guide to the Athabasca Oil Sands Area*, ed. M.A Carrigy and J. W. Kramers, (Edmonton: Research Council of Alberta, 1975), 178.

government led research organization, known as the Alberta Oil Sands Technology and Research Authority (AOSTRA), was able to recover bitumen through SAGD methods at rates of 20,000 to 40,000 barrels a day. [39] AOSTRA's success was the outcome of a new horizontal drilling technique, which enabled developers to drill vertical wells, before turning the drill horizontally at a certain depth to maximize the total area of bitumen recovered by steam injection.[40] By 1996 Imperial Oil was operating the largest in-situ extraction project in the Cold Lake region. The Cold Lake bitumen deposits are deeper underground than the Athabasca region, which has limited the use of surface mining techniques.[41]

Continuing along the oil sands commodity chain, the next link following extraction was dilution and upgrading. The stage of dilution and upgrading was critical to the process of commodification as it abstracts the original natural resource through blending with other natural resources to create a commodity of higher value. Due to the high degree of viscosity and complex characteristics of bitumen hydrocarbon molecules, extracted bitumen must be either upgraded to synthetic crude oil or blended with condensates. The purpose of blending and upgrading bitumen was used to reach a favourable API gravity to enable transportation to and processing at conventional refineries.[42] Upgrading also increased the value that oil sands producers could receive from refineries, because the quality of the crude oil was significantly improved. As will be discussed further in Chapter Four: "Managing The Province's Share Of Economic

[39] N.a. "AOSTRA Eyes Commercial Scale Oil Sands Project," *Oil and Gas Journal* 90, 35 (1992): 26.
[40] Ibid.
[41] N.a, "Canadian Oil Sands, Heavy Oil Poised For Surge In Development," *Oil and Gas Journal* (1996): 25-28.
[42] Downey, 45.

Rent," oil sands upgrading was very cost intensive, but Progressive Conservative governments have had an interest in encouraging upgrading, because of the possibility to capture added monetary wealth and economic growth before semi-processed bitumen was shipped out of the province.

Along the oil sands commodity chain both goods and services are exchanged between producers at the various stages of industrialization and commodification. Integrated surface mines were upgraders that are owned and operated by the companies extracting the bitumen. In the late-1970s, Suncor's Base and Millenium Mine (formerly Great Canadian Oil Sands) and Syncrude's Mildred Lake were the first plants to integrate upgrading capacity into surface mining operations. In 2001, Nexen began SAGD operations at the Long Lake plant located in the Cold Lake region, and built an upgrader to process bitumen on site. Shell's Albian Sands began production in 2003, but instead transported bitumen offsite from Fort McMurrary to the Scotford Refinery, four hundred kilometers south, in Fort Saskatchewan. Canadian Natural Resources Limited's (CNRL) Horizon began producing bitumen from the Peace River region in 1996, but CNRL did not build an on-site upgrader until 2012. Additional upgrading capacity in Alberta was available at Husky Energy's Lloydminster Upgrader, which began operations in 1992. Since upgrading plants have cost several billions of dollars to build, developers without upgraders have instead established service contracts with regional or out of province operators. Alternatively oil sands producers also have the option of diluting the bitumen, before shipping to refiners with heavy oil capability. Historian and political scientist Paul Chastko has appropriately described the oil sands as an expensive

alternative fuel operating on the margins of the oil industry when compared with the cheaper costs of producing conventional fuel.[43] As demonstrated from this brief overview of upstream oil sands operations, the industry faced significant technological and capital-intensive challenges to produce a cost-effective and competitive liquid transportation fuel.[44]

Midstream-Downstream: Transportation Networks to Global Markets

An extensive transportation network has connected upstream extraction sites to downstream retail markets. Environmental historian Matthew Evenden has argued that the substructure of transportation networks within commodity chains are the physical links that bridge the distance between places, ensuring continued resource industrialization as commodities are moved to market at cost-effective rates.[45] Large companies that specialize in delivering and transporting commodities are able to access economies of scale needed to reduce costs. The midstream transportation network connecting northern Alberta to regional downstream markets has predominantly relied on the use of pipelines to transport diluted bitumen or synthetic crude oil from the oil sands. Overtime the pipeline network has become constrained due to production increases in the oil sands. With a greater supply of both heavy and light crude oil, refiners have since the early 2000s reduced the purchase price of bitumen. With the

[43] Chastko, 15.

[44] Although bitumen extracted from the oil sands can be used to create multiple commodities, such as jet fuels or petrochemical products, transportation fuels are by far and away the most common finished product.

[45] Evenden, 80. See also: Jeffrey Henderson, Peter Dicken, Martin Hess, Neil Coe, and Henry Wai-Chung Yeung, "Global Production Networks and the Analysis of Economic Development," *Review of International Political Economy* 9, 3 (2002): 436–64; Deborah Leslie and Suzanne Reimer, "Spatializing Commodity Chains," *Progress in Human Geography* 23, 3 (1999): 401–20.

addition of transportation and operating costs that are especially high for oil sands producers, bitumen from the oil sands was a marginal or last resort crude oil commodity when competing with easily accessible and high-quality light crude oil. To understand the Progressive Conservative governments different approaches to oil sands development and royalty regulations it is essential to understand how the midstream and downstream oil sands industry has operated.

Along the oil sands commodity chain, a complex network of transportation infrastructure, at the midstream level, has moved crude oil supplies from northern Alberta to regional oil markets, where additional storage, refining and upgrading capacity has been located. Alberta crude oil producers have primarily exported supplies to the United States. The United States is not a single oil market, and was historically divided into five arbitrarily defined districts. During the Second World War, the United States government established five Petroleum Administration for Defense Districts (PADD) to ration gasoline supplies. Although the PADD program was eventually cancelled following the end of the war, the terminology was still used as a means of analyzing patterns and movements of crude oil and petroleum products.[46] An interconnected pipeline system, beginning in northern Alberta, has connected oil sands producers to markets across North America (Figure 3).

[46] United States Energy Information Administration, *PADD Regions Enable Regional Analysis Of Petroleum Product Supply And Movements* (Washington: U.S. Department of Energy, Energy Information Administration, 2012). Accessed online at: http://www.eia.gov/todayinenergy/detail.cfm?id=4890

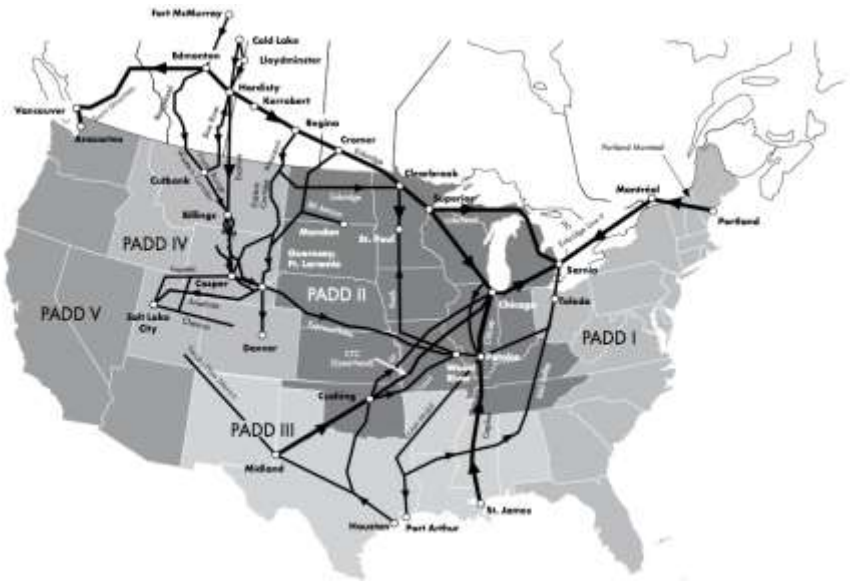

Figure 3: The above map displays the five Petroleum Administration for Defense Districts (PADDs) located across the United States, as well as the interconnected pipeline system linking northern Alberta to various refineries in PADDs IV and II especially. The image is from 2006, with many of the pipelines illustrated having being built since the early 1950s.

Source: National Energy Board, *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update* (Ottawa: Government of Canada, National Energy Board, 2006), 30.

Transportation networks are the physical infrastructure that links multiple sets of activities across political jurisdictions, global economies, and environmental divides.[47] The midstream oil industry has traditionally relied on pipelines to transport crude oil, although there were other options, such as tankers, railcars, trucks, and barges. A trunkline was the term used to signify the main pipeline, with branch lines diverging from the trunkline. Branch pipelines allowed for a single extraction site to reach multiple refineries.

The history of Alberta's oil sands and pipeline expansion draws interesting comparisons to the history of light crude oil. Pipelines were first built in Alberta to transport light crude oil to the United States, where the greatest demand from

[47] Ciccantell and Smith, 368.

refineries and consumers was located. The distance travelled from Alberta to the mid-west United States was also much shorter and less difficult to by-pass when compared to the Rocky Mountains to the west and the long open space to the east. Beginning in the early 1990s, light crude oil production in Alberta began to decrease and the spare pipeline capacity was slowly replaced by growing production from the oil sands. This trend is best illustrated from a historical examination of Alberta's three major trunklines: Enbridge's Interprovincial Pipe Line and Lakehead system, Kinder Morgan's Trans Mountain, and Kinder Morgan's Express.[48]

Kinder Morgan is an energy infrastructure company, which historically operated the Trans Mountain and Express pipeline systems. The Trans Mountain pipeline system was first built in 1953 across the Rocky Mountains and through the British Columbia interior. Terasen Pipelines first built the pipeline to accommodate light crude oil production from the Leduc oil fields in central Alberta. Trans Mountain originated at Edmonton and extended west across British Columbia to terminals in Burnaby, before shipping crude oil to various ports outside of Canada.[49] Kinder Morgan purchased the Trans Mountain pipeline system from Terasen pipelines in 2005 (Figure 4). While Trans Mountain was in operation since 1953, the Express pipeline system began pumping oil through the pipeline system in 2005 under the direction of Kinder Morgan. Express

[48] Oil sands producers have additional smaller pipelines that connect facilities in the Peace River, Athabasca, and Cold Lake regions to Edmonton, where, as previously discussed, the concentration of upgrading and storage capacity in Alberta is centrally located. Oil sands producers establish service contracts with pipeline owners and operators to facilitate the movement of crude oil.

[49] National Energy Board, *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update* (Ottawa: Government of Canada, National Energy Board, 2006), 29.

originated at Hardisty, Alberta, delivering crude oil to locations across PADD IV.[50] Express also connected to the Platte pipeline system at Casper, Wyoming, enabling producers from Alberta to deliver crude oil to refining and storage hubs in southern PADD II.

Figure 4: The above photographs display Terasen Pipelines building the Trans Mountain pipeline in 1953. This photo illustrates the challenges of building pipelines.

Source: Kinder Morgan Inc. *Trans Mountain Pipeline System* (Houston: Kinder Morgan Inc. 2013). Accessed online at: http://www.kindermorgan.com/business/canada/transmountain.cfm

Enbridge has historically operated the largest pipeline system for delivering crude oil from Alberta to regional markets in mid-west United States. The main pipeline systems in Canada were known as the Interprovincial Pipeline, whereas the pipelines in the United States were known as the Lakehead.[51] Enbridge's Interprovincial Pipeline and Lakehead system was first built in 1949 to accommodate growing light crude oil production from the Leduc oil fields.[52] Between 1949 and 1976 Enbridge connected the

[50] National Energy Board, *Canada's Oil Sands,* 29.
[51] See Sean Kheraj, "The History of Oil Pipeline Spills in Alberta, 2006-2012," *Active History*, June 12th 2012. Accessed online at: http://activehistory.ca/2012/06/the-history-of-oil-pipeline-spills-in-alberta-2006-2012/
[52] Interprovincial Pipe Line, *Annual Report, 1990-1991* (Edmonton: Interprovincial Pipe Line, 1991), 13.

Lakehead system to eastern Canada and mid-western United States (Figure 5). Enbridge built the first branch between Edmonton and Superior, Wisconsin in 1950. The second branch extended from Superior to Sarnia, Ontario in 1953. In 1969, the pipeline was extended from Superior to Chicago, Illinois and linked to Westover, Ontario from Sarnia. In 1976 the pipeline was also linked to Montreal, Quebec. The capacity of the pipeline system has increased overtime with the building of additional storage tanks in Edmonton, a parallel trunkline from Edmonton to Superior, and multiple pump stations to increase the rate that the crude oil flows.[53] While Enbridge's delivery of crude oil from Alberta has historically been concentrated to refineries in the mid-western United States, the pipeline company first gained access to southern PADD II in 2006 with the Spearhead pipeline reversal.[54] This was a significant moment for oil sands producers and mid-west refineries, because it allowed Enbridge to directly move crude oil to Cushing, Oklahoma. More importantly it created access to additional storage tanks, refineries, and shipping capacity to reach growing global oil markets outside of North America. Enbridge thereafter sought access to the Pacific Coast of British Columbia through the Northern Gateway pipeline project. Originally proposed in 2006, Enbridge's Northern Gateway failed to move forward with construction because of difficulty acquiring land rights. By 2006, Enbridge's Interprovincial Pipeline and Lakehead system accounted for roughly 2.1 million barrels a day of crude oil deliveries from western Canada.[55] Following

[53] Interprovincial Pipe Line, *Annual Report, 1990-1996* (Edmonton: Interprovincial Pipe Line, 1991-1996).
[54] Enbridge, *Annual Report, 2005-2006* (Edmonton: Enbridge Inc, 2006).
[55] National Energy Board, 29.

continued pipeline expansions, Enbridge as of 2014 accounted for 2.2 million barrels per day of crude oil deliveries (Figure 6).[56]

Figure 5: The above map display's Enbridge's pipeline system connecting central Alberta to markets in mid-west United States and eastern Canada. The map is from 1990, directly before the acceleration in oil sands development and modifications to Alberta's royalty regime.

Source: Interprovincial Pipe Line, *Annual Report, 1990-1991* (Edmonton: Interprovincial Pipe Line, 1991), 13.

[56] Enbridge, *Liquids Pipelines* (Edmonton: Enbridge Inc., 2014). Accessed online at: http://www.enbridge.com/DeliveringEnergy/OurPipelines/LiquidsPipelines.aspx

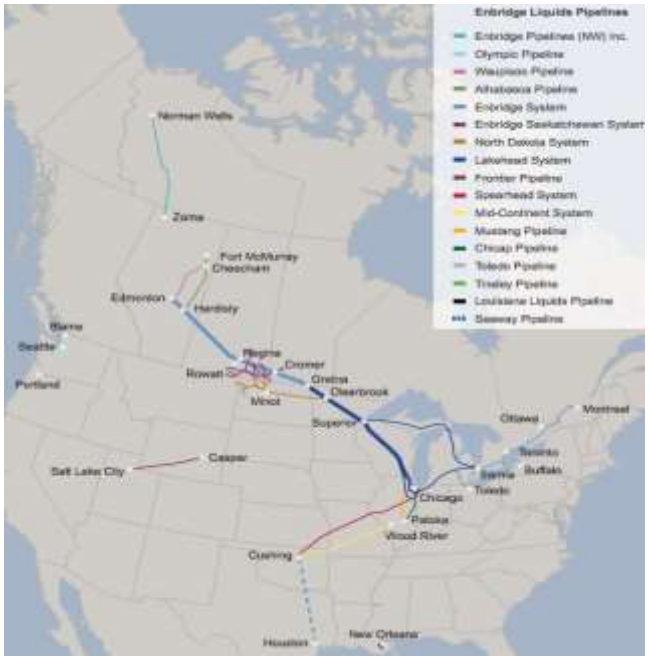

Figure 6: The above map display's Enbridge's pipeline system as of 2014, after significant changes to Alberta's royalty regime and rates of production from the oil sands.

Source: Enbridge, *Liquids Pipelines* (Edmonton: Enbridge Inc., 2014). Accessed online at: http://www.enbridge.com/DeliveringEnergy/OurPipelines/LiquidsPipelines.aspx

Although Enbridge's pipeline system accounted for the majority of crude oil deliveries out of Alberta, the pipeline system only gradually switched from light crude oil to synthetic crude oil and diluted bitumen from the oil sands. As oil sands production increased in the 1990s, Enbridge's pipeline system went from delivering 469,000 barrels per day of medium and heavy oils in 1989 to 779,000 barrels per day in 1996 (Figure 7). As the type of crude oil being delivered changed over time, Enbridge built the Wild Rose (or Waupisoo) Pipeline project in 1997 to specifically accommodate the anticipated growth in oil sands production from the Athabasca and Cold Lake regions. [57] The Wild Rose Pipeline extended from Edmonton to northern Alberta.[58] Enbridge's gradual transition away from light crude oil deliveries reveals added details on the historical

[57] Interprovincial Pipe Line, *Annual Report, 1997-1998* (Edmonton: Interprovincial Pipe Line, 1997), 32.
[58] Interprovincial Pipe Line, *Annual Report, 1997-1998,* 32.

context for government decisions regarding the management of oil sands royalty regulations and revenue.

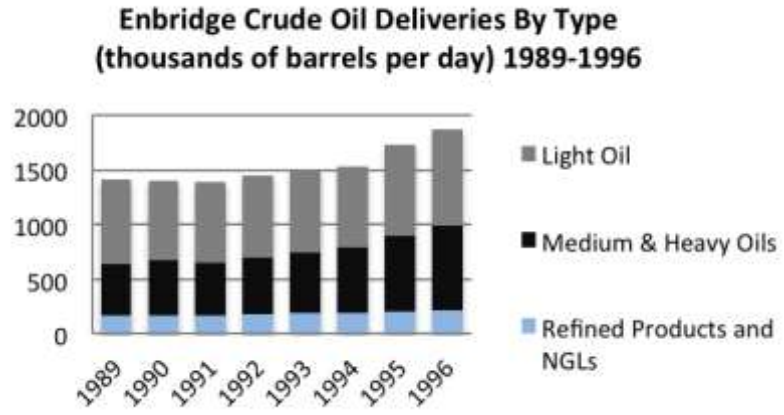

Figure 7: The above table displays Enbridge crude oil delivery by type from 1989 to 1996. Medium and heavy crude oil deliveries, primarily from the oil sands, steadily increased up to 1996, while light crude oil deliveries were on a slow, but steady, decline.

Source: Interprovincial Pipe Line, *Annual Report, 1990-1997* (Edmonton: Interprovincial Pipe Line, 1991-1997).

From the upstream to the downstream sectors of the oil sands industry, it is clear that oil sands producers have historically had access to a large interconnected pipeline network that was built to direct crude oil deliveries to PADDs II and IV in the United States. PADDs II and IV were important for the proximity to refineries, concentrations of consumers in northeast United States, and access to the coast for shipping crude oil outside of North America. At these locations the price that oil sands producers received for the synthetic crude oil or diluted bitumen on commodity markets was set in terms of supply contracts purchased by refineries. The price used for supply contracts was based on benchmarks, or spot market reference prices, which futures markets determined through open trading. A futures market was a central financing institution where companies and investors purchased a futures contract, or in this case

supply contracts, that represented a standard quality and quantity of a commodity, to be delivered at a scheduled date. The New York Mercantile Exchange (NYMEX) and the InterContinental Exchange (ICE) were the main futures markets for exchanging crude oil supply contracts. ICE and NYMEX emerged as legitimate financial institutions for trading crude oil on the world market in the 1990s, while in the 1980s crude oil commodities were considered a novelty for many of the traders involved in futures markets.[59] As crude oil trading gained legitimacy on NYMEX and ICE, a spot market benchmark emerged as the standard price for the majority of the crude oil being traded within a specified region.[60] At NYMEX West Texas Intermediate Crude (WTI) was the reference for supply contracts in North America, specifically the buying and selling of crude oil at Cushing, Oklahoma, which was the central refining and storage hub in the United States. At ICE, Brent Crude emerged as the reference for supply contracts in Europe. Although WTI was the standard benchmark for crude oil in North America, the price for bitumen from the oil sands was listed as Western Canadian Select (WCS) on NYMEX. WCS was first introduced to the futures market in December 2004, as crude oil deliveries from western Canada steadily began to reach Cushing.[61]

Oil sands producers have historically depended on a few regional markets in the United States, which has created significant financial problems for the Alberta government as demonstrated through an increasing price spread between Brent (Europe), WTI (North America), and WCS (Alberta) beginning in July 2009 that reduced

[59] S. Gurean Gulen, "Regionalization in the World Crude Oil Market: Further Evidence," *The Energy Journal* 20,1 (1999): 137.
[60] Ibid., 126.
[61] National Energy Board, 23.

the amount of royalty revenue collected. The increasing price spread between the different crude oil benchmarks in 2009 clearly revealed how the price of bitumen was discounted in futures markets. Oil sands producers received low-priced supply contracts when competing with better quality and more easily accessible light crude oil (Figure 8). Although crude oil commodities from the oil sands were already discounted because of quality drop-offs and transportation costs, historically WTI and Brent followed similar price trajectories. WTI was first introduced to the NYMEX in the 1970s, and through till July 2009 the differential between WTI and Brent never exceeded $5 a barrel (Figure 9).[62] Using a political economy approach, George Hoberg has explained that beginning in 2009 the price spread between Brent, WTI, and WCS was the result of a combination of factors that included: stagnation in United States oil demand, growth in regional oil production, and limited pipeline capacity to transport bitumen from northern Alberta to growing markets abroad.[63] The price spread reduced the amount of economic rent the Alberta government collected through royalties. The reduction in royalty revenue will be elaborated on further following the examination of how royalty regimes were designed by Lougheed, Klein, and Stelmach.

[62] Prior to 2009 the United States was the largest oil consumer, but following the economic recession and improvements in energy efficiency, demand has been reduced. On an international level, oil markets following 2009 have increased demand because of rapid economic growth in the emerging economics of China and India. This trends is well documented in publications by the United States Energy Information Administration, see: http://www.eia.gov/

[63] George Hoberg, "The Battle Over Oil Sands Access to Tidewater: A Political Risk Analysis of Pipeline Alternatives," *Canadian Public Policy* 39,3 (2013): 379.

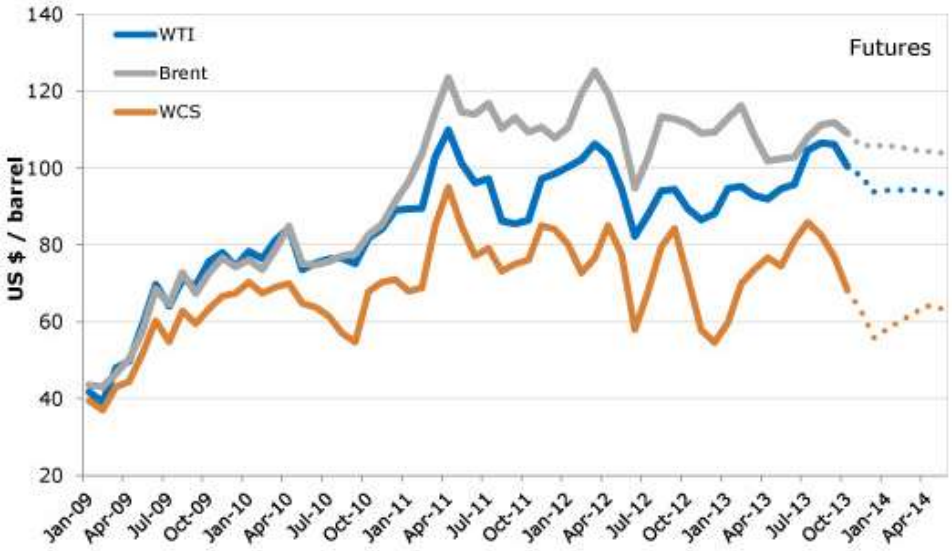

Figure 8: The above graph displays the price spread between Brent, WTI, and WCS that began in early 2009.

Source: National Energy Board, *Crude Oil and Petroleum Products: Winter Outlook 2013-2014* (Ottawa: National Energy Board, 2013). Accessed online at: http://www.neb-one.gc.ca/clf-nsi/rnrgynfmtn/nrgyrprt/nrgytlk/tlkwntr2013/crdlptrlmprdcts-eng.html

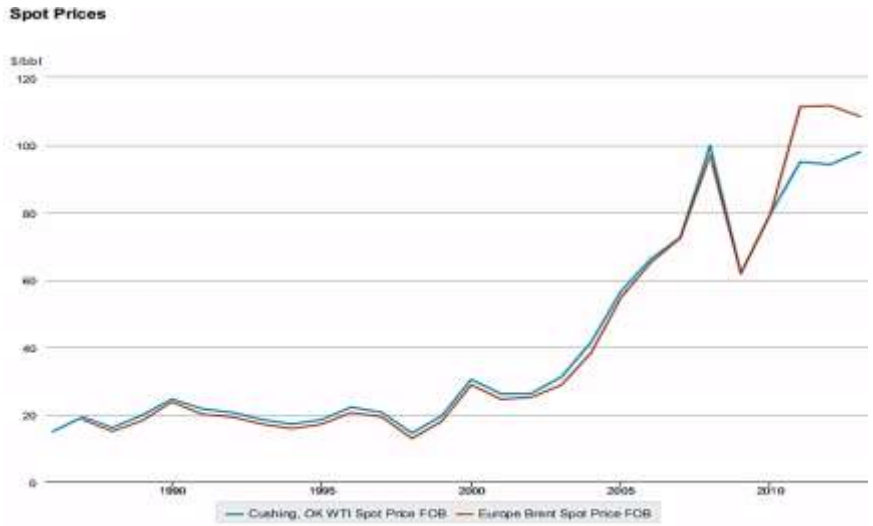

Figure 9: The above graph illustrates the historically similar WTI and Brent price trends since the mid-1980s, with a significant divergence in early 2009.

Source: United States Energy Information Administration, *Petroleum and Other Liquids: Spot Prices* (Washington: U.S. Department of Energy, Energy Information Administration, 2014). Accessed online at: http://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm

Using a commodity chain analysis, this Chapter revealed that geology, geographic location, and commodity discounts were key issues in developing Alberta's oil sands. These issues shaped how Progressive Conservative governments made political and financial decisions to encourage oil sands development. The local shaped the global within the commodity chain, as location and resource specific characteristics influenced the strategies of private firms, such as Enbridge, Suncor, GCOS, Shell, and Imperial Oil. Oil sands development was a linked set of activities crossing multiple jurisdictional boundaries. Bitumen was technologically challenging to extract, and once extracted commodity markets categorized the non-renewable resource as low quality and undesirable. Upstream oil sands developers had to overcome capital-intensive and technological risks to produce a cost-effective and competitive transportation fuel. Yet the commodity markets where bitumen was sold changed over time, as pricing dynamics fluctuated outside of the control of oil sands producers and the Alberta government. Beginning in 2009, the reliance of oil sands producers on exports to a few regional markets in mid-west United States resulted in an increasing price spread between Brent, WTI, and WCS. Such problems related to oil sands resource characteristics, operating costs, and commodification influenced the design of tax policies and management of public finances to encourage oil sands development.

Chapter III: Regulation by Design

Royalties are central to non-renewable resource development and management in Alberta, as the tools used to collect royalties and distribute royalty revenue have shaped how private companies adapted to financial risks. A royalty was a revenue stream for the government to collect economic rent from property that was owned by the citizens of Alberta, but leased to private developers. A company that has leased land from the state compensates the public owners of the resource by paying royalties.

In this Chapter I will use a political economy approach to examine the negotiation and design of three different royalty regimes by Progressive Conservative governments, and whether or not the outcomes reflected the objective of encouraging oil sands development as well as overcoming the problems demonstrated along the oil sands commodity chain. Naazneen H. Barma et al. provide insight into the usefulness of a political economy approach for understanding natural resource management. Through a political economy approach, royalty regulations can be simplified into two components: capturing economic rent through royalty taxation, and distributing economic rent through public saving and spending. [64] This Chapter focuses on the design of royalty regimes from 1967 to 2008, while the Chapter that follows is on the saving and spending of royalty revenue in the same time period. The analysis of fiscal policy reveals a broader government strategy directed towards resolving the problems identified in the previous Chapter (commodity price discounts, crude oil market volatility, capital risks, and technology intensive oil sands development).

[64] Naazneen H. Barma et al., *Rents to Riches? The Political Economy of Natural Resource-Led Development* (Washington: The World Bank, 2012), 11.

Development of the oil sands from a research experiment to a commercial industry shaped the design of royalty regulations in Alberta. In *The Politics of Development*, Nelles traces the development process from exploration to production with reference to a variety of natural resources, both renewable and non-renewable. Examining the history of Ontario between 1849 and 1941, Nelles observes that during the early phases of natural resource development "the government's role was as a promoter, but later, once large-scale operations had commenced, regulating industry became the more dynamic function."[65] Prior to 1995 Alberta's oil sands royalty regime was governed on a project-by-project basis. However in 1995 Premier Ralph Klein implemented a generic and standardized royalty regulation for all oil sands projects. After roughly a decade under the generic royalty regime, in 2009 Premier Ed Stelmach transitioned from set royalty rates to a price sensitive model that charged royalty rates based on the price of oil. Across the three different royalty regimes there was a clear maturation of the oil sands industry from the stage of experimentation, to marginal production from a few mega-projects, finally to large-scale commercialization with numerous developers of various sizes.

Premiers Peter Lougheed (1971-1985), Ralph Klein (1992-2006), and Ed Stelmach (2006-2011) each governed during a period of significant changes to Alberta's oil sands royalty regime. Each premier was a member of the Progressive Conservative Association of Alberta. The Progressive Conservatives first came to power after defeating the Social Credit Party in 1971. As of 2014, the Progressive Conservatives have governed Alberta

[65] Nelles, 154.

under seven premiers, each with a different political philosophy towards non-renewable resource development and public finances. The internal selection of leaders in the Progressive Conservative party was an important process in Alberta's history. The leadership votes for Klein and Stelmach marked key moments, which brought to power new party leaders that each implemented significant changes to the government and non-renewable resource development.

Theoretically an increase in the royalty rate does not increase the total amount of economic rent available, but a change in the royalty rate does determine which actor will receive what portion of the total economic rent that can be created from selling the natural resource on commodity markets.[66] There were multiple alternatives for collecting royalty revenue. Royalties can be collected in various designs: higher, lower, or fluctuating royalty rates, and net-revenue vs. gross revenue royalties. Revenue is the income a company receives for any given period. A net-revenue royalty has certain expenses or allowed costs subtracted from the taxable amount of revenue collected by a company. The government setting a net-revenue royalty determines the rules for what is and isn't an allowed cost. In contrast gross revenue is the total revenue. Gross revenue is a larger taxable portion than net-revenue since the costs of producing a commodity are not subtracted. A higher royalty will discourage private investment, possibly resulting in no development as the resource is left in the ground. Depending on the rate of resource extraction, the government will collect a greater share of economic rent from producers through higher royalties. Alternatively a lower royalty could lead to

[66] Andrew Leach, "Your Oil Sands Royalty Primer," *Rescuing the Frog*, April 14th 2012.

rapid development, as producers will capitalize on greater profits in the short-term with limited revenue being taxed through government royalties. However the situation is not this simple; the portion of economic rent available is also shaped by capital costs, and currency exchange rates. Higher royalties could also result in slowed development and decreased inflation that would have otherwise increased if lower royalties allowed greater development.[67] Finally neither lower or higher royalty rates change the total amount of economic rent available from extracting, processing, and selling the commodity, since the value of the resource is determined by commodity markets and other pricing dynamics. This complex relationship between market prices, royalties, and resource development is critical to understanding the outcome of Alberta's different royalty regimes.

Beginning in 1967 there have been three different oil sands royalty regimes that were modified in relation to the stages of oil sands development, changing commodity markets, and the decision-making of elected officials. While the Social Credit party established the first royalty agreement with the Great Canadian Oil Sands (GCOS) in 1967, the Progressive Conservative governments beginning in 1971 were key decision-makers in whether or not to amend the oil sands royalty regime as the industry expanded. Premiers Lougheed, Klein, and Stelmach draw the focus of this Chapter. The time periods of the three oil sands royalty regimes examined by this masters thesis are 1967-1995, 1995-2008, and 2008 to the present. The main argument of this Chapter is that the purpose of the three royalty regimes established by the Progressive

[67] Leach, "Your Oil Sands Royalty Primer."

Conservative governments was to create favourable tax policies that would support oil sands expansion, despite the volatile oil prices and changing cost of oil sands extraction.[68]

Negotiated Agreements and an Uncertain Future, 1967 to 1995

Between 1967 and 1995, royalty regulations were designed on an ad-hoc project-by-project basis, with each new oil sands project receiving its own Crown Agreement, royalty rate, and tax concessions. The Social Credit party created the first oil sands Crown Agreement with the Great Canadian Oil Sands (GCOS) in 1967. The GCOS Crown Agreement was based on the existing conventional oil royalty regime. Following a change in government in 1971, Peter Lougheed and the Progressive Conservatives would maintain the basic provisions around oil sands royalty collection, but shift towards greater state involvement through joint-ownership of public assets. Lougheed's approach allowed the government to be flexible with setting royalty rates depending on the project and stage of oil sands development. Despite the flexibility for government, an outcome of Lougheed's approach was uncertainty for private industry that was looking to invest in the oil sands. The uncertain design of Crown Agreements was one of multiple factors that contributed to the failure of proposed mega-projects during the early 1980s.

[68] The broader context of federal and provincial fiscal regimes is also an important variable. Federal government design of Corporate Income Taxes has shaped the collection of economic rent from the oil sands. My thesis does not go into detail on the important relationship between corporate income taxes and royalties. See Jack Mintz and Duanjie Chen, "Capturing Economic Rents From Resources Through Royalties and Taxes." *The School of Public Policy* 5,30 (2012): 1-45; or Kenneth J. McKenzie, "Plucking the Golden Goose: Higher Royalty Rates on the Oil Sands Generate Significant Increases in Government Revenue." *The School of Public Policy* 3,3 (2011): 1-8.

Prior to the 1970s, oil sands producers were faced with overcoming the technological challenges of determining how to extract and process bitumen. The first commercially successful surface mining operation began in 1967. GCOS invested $235 million to build an oil sands industrial complex, capable of producing and upgrading an average 51,000 barrels of synthetic crude oil daily.[69] To be economically viable surface mining operations required large economies of scale that involved reducing fixed costs by increasing the unit of output and size of operations. GCOS was a significant achievement for the oil sands sector, which demonstrated the commercial viability of the Alberta-based industry as the plant was able to remain operational not withstanding infrequent breaks in production.

Prior to the Progressive Conservatives taking power in 1971, Alberta's Social Credit party was in government since 1935. Between 1935 and 1971, three premiers governed the Social Credit party: William Aberhart (1935-43), Ernest Manning (1943-68), and Harry Strom (1968-1971). The beliefs of the Social Credit party changed over time. As historian Alvin Finkel describes: the Social Credit party shifted from a reformist movement, open to left-wing ideas, to a reactionary and socially conservative party, focused on lavish government spending and anti-socialism.[70] Under Aberhart, Social Credit won its first election by promising to resolve issues of class division through direct monetary relief in the form of social dividends and monetary reform.[71] The Aberhart government framed non-renewable resources as a valuable commodity that should be

[69] Allen and Sanford, 101.
[70] Alvin Finkel, *The Social Credit Phenomenon in Alberta* (Toronto: University of Toronto Press, 1989), 4.
[71] Finkel, 33.

conserved and extracted for public benefit.[72] Specifically in 1938 Aberhart created the Oil and Gas Conservation Board, with legislation that outlined the practices of oil and gas conservation. The Oil and Gas Conservation Board was a quasi-judicial body responsible for regulating oil and gas exploration, production, and distribution. Although the Oil and Gas Conservation Act outlined rules for the oil and gas industry, historian David Breen comments that the Board had limited capacity to address the oil field problems of over-drilling and overproduction.[73] The purpose of creating the Oil and Gas Conservation Board was to protect Alberta-based businesses during the incredibly turbulent economic period of the 1930s. Beginning in the early-1940s, Aberhart's political decline followed as the printing of public bonds and social dividends resulted in added financial problems for the province. Aberhart would later die in office, and cause a leadership vote for the Social Credit party.

In 1943 Ernest Manning won the leadership of the Social Credit party. Manning applied fiscal policy support for the business community in the form of direct financing as well as low royalty and income tax rates.[74] In the conventional oil and gas industry first, Manning provided public financing to the Alberta Gas Trunk Line in 1954.[75] Manning's non-renewable resource development strategy emphasized keeping costs at a minimum, increasing production, and avoiding all possibilities for government

[72] David R. Elliott, "William Aberhart," in *Alberta Premiers of the Twentieth Century,* ed. Bradford J. Rennie (Regina: University of Regina Press, 2004), 141.
[73] Breen, 103.
[74] Ball, Edward, "Ernest Manning 1943-1968," in *Alberta Premiers of the Twentieth Century,* ed. Bradford J. Rennie (Regina: University of Regina Press, 2004), 158.
[75] Ibid., 167.

ownership.[76] Following public financing of the Alberta Gas Trunk Line in 1954, Manning sold all public shares of ownership. Manning was also a staunch advocate for the federal government to provide complementary support to Alberta's oil and gas industry. In 1959 Manning sent a delegation to Ottawa to convince then Prime Minister Robert Borden to support the development of a pipeline from Alberta to Montreal.[77] To achieve this goal, Manning had hoped for the federal government to place restrictions on oil imports, which was expected to create conditions forcing Ontario oil refineries to purchase Alberta's crude oil as opposed to lower priced and geographically closer crude oil from the United States. Although the Alberta delegation was unsuccessful, this one instance represents the lengths Manning was willing to go to encourage provincial crude oil development and the associated economic opportunities. The Social Credit party under Aberhart and Manning established the initial legislation and government-industry relationship that went on to structure the conventional oil and gas industry between 1935 and 1971. This economic and political tradition was carried over to the unconventional oil sands industry through the contract terms of the Crown Agreement with GCOS.

Manning's Social Credit government maintained a relationship with the GCOS plant as both a regulator and promoter. In 1967 the Social Credit government entered into a Crown Agreement with GCOS that levied a royalty on "all products" derived from the project.[78] The government collected the royalty each month at a rate of 8% of the

[76] Ibid.
[77] Breen, 488.

profits for the first 900,000 barrels and 20% on the remaining 450,000. The reason for signing a Crown Agreement with GCOS in 1967, as opposed to designing a standard government regulation for all future oil sands developments, can be interpreted as the Social Credit government limiting the potential risks of discouraging investment during the maturation of the oil sands industry.

The election of 1971 brought to an end 41 years of Social Credit government, as Peter Lougheed led the Progressive Conservatives to power. Lougheed launched a major province-building initiative with significant changes to the province's public finances, petroleum and natural gas royalty structure, and the degree of state involvement in natural resource development. As described by biographer Allan Tupper: "Lougheed's province-building strategy rested on the foundation of provincial ownership of natural resources… used to alter the balance between the resource industry and provincial government."[79] Lougheed's strategy for province-building and natural resource management became clear within the context of multiple oil price shocks, concerns for long-term oil supply security, and especially tense provincial-federal relations. Lougheed's different approaches to the conventional oil and oil sands royalty regimes reveal how different resource characteristics shaped the design of royalty regulations. By 1971 the conventional oil industry was diverse and sizeable, as developers of various sizes produced a consistent supply of oil. By contrast the oil sands sector was defined by the lone GCOS plant, which produced oil infrequently and at an exceptionally higher cost. After being elected as premier in 1971, Lougheed's first priority was to reform the

[79] Tupper, Allan, "Peter Lougheed 1971-1985," in *Alberta Premiers of the Twentieth Century,* ed. Bradford J. Rennie (Regina: University of Regina Press, 2004), 210.

conventional oil regime left over from Manning's Social Credit era. In particular Lougheed was concerned with Social Credit's maximum royalty rate of 16.66%.[80] In 1973 Lougheed introduced changes to the conventional oil royalty regulation that increased the maximum royalty rate for the conventional oil industry by nearly 50%. Growing provincial coffers afforded Lougheed additional resources to fund social programs and expand the size of Alberta's public service.

Private interest in the potential of the oil sands increased following a rise in crude oil prices. In 1973, the Organization of Petroleum Exporting Countries (OPEC) restricted oil exports to North America, which triggered a rapid increase in global oil prices.[81] Within a high oil price environment, a consortium of private companies, known as Syncrude, sought to build a second oil sands plant. Before moving forward with plans for the $2 billion plant, Syncrude was required to go through the project approval process with the provincial government. The project approval process involved meeting specific plant design requirements, as well as negotiating an acceptable royalty rate. These windows of opportunity allowed the different actors involved to advocate a particular royalty regime that would shape the rate of development and the amount of rent being collected.

During negotiations with Syncrude in the late 1970s, Lougheed publically outlined a plan for oil sands royalty regulations that was noncommittal on a formal oil

[80] Ibid.

[81] In 1973, OPEC responded to United States support of Israel during the Yom Kippur War and Six Day War by issuing an oil embargo on exports to North America. The result of this economic warfare by manipulating commodity prices led to a shortage in the amount of petroleum available as well as incredibly steep oil prices. For the oil sands, high oil prices provided added incentives to develop projects that would have been uneconomic at lower prices.

sands royalty regulation. Lougheed publically announced that the government was not "prepared to establish a long-term inflexible policy" for oil sands royalties.[82] At a meeting between Syncrude, the Canadian Petroleum Association, and the Alberta government, the Deputy Minister of the Department of Mines and Minerals reiterated Lougheed's intentions. Deputy Minister Dr. B. Mellon outlined how royalties "would be negotiated on a plant to plant basis."[83] From the perspective of government, oil sands development was inevitable. Environment Minister W.J Yurko argued that "once the momentum of building oil sands plants is established it will be sustained."[84] In response to statements from the government, the petroleum industry lobbying group the Canadian Petroleum Association emphasized that clear government direction was needed in "the immediate future" in order to "avoid the present uncertainty" and prevent projects from running "into financial difficulties."[85] While the Progressive Conservative cabinet interpreted oil sands development as a certainty, corporate industry officials saw nothing but risk.[86]

Lougheed would later partially adopt industry recommendations through the establishment of Crown Agreements in the late 1970s and early 1980s. The Syncrude Crown Agreement reflected Lougheed's province building initiative and the close working relationship with industry as the government took an active role as a joint-owner. To guarantee the continued success and expansion of the Syncrude project, the

[82] G.A. Connell, Oil Sands *Royalty Task Force Meeting with the Alberta Government Oil Sands Royalty Committee* (Edmonton: Canadian Petroleum Association and the Government of Alberta, June 13, 1973).
[83] Ibid.
[84] Chastko, 163.
[85] Chastko, 163.
[86] Ibid., 164.

government waived the right as lessor to prescribe a royalty, so long as the province recovered a 50% share of the deemed net profit of the joint venture.[87] The Crown Agreement also outlined that if the joint venture was terminated the province would collect a monthly gross revenue royalty of 7.5% in any and all of the leased substances recovered in the Syncrude project.[88] The result of such tax concessions and exemptions allowed Syncrude to trim front-end costs and remain successful during the difficult initial years of operation.[89] In addition to designing a Crown Agreement with favourable royalty rates and joint public-private ownership, Lougheed added limits to when the royalty rates could be changed. Government could only change the gross production royalty 10 years after the start of production, unless private leases requested a review.[90] The overall purpose of this agreement was to provide stability for the emerging oil sands industry.

Although the project-by-project approach was successful in achieving the creation of Syncrude, a period of low oil prices and intergovernmental competition further complicated project development in the 1980s. Contentious industry-government negotiations led to the failure of multiple project proposals. In late 1978 the Alsands Project Group proposed to build a third oil sands mine. The mine was scheduled to cost $5.9 billion with a capacity of 137,000 barrels of synthetic crude oil

[87] Government of Alberta, *Syncrude Project: Alberta Crown Agreement* (Edmonton: Government of Alberta, 1975), 12.
[88] Ibid., 19.
[89] Larry Pratt, *The Tar Sands: Syncrude and the Politics of Oil* (Edmonton: Hurtig Publishers, 1976), 125.
[90] *Syncrude Project*, 24.

per day.[91] While negotiations began in early 1979, the Alsands project was delayed when Prime Minister Pierre Elliot Trudeau implemented the National Energy Program. The NEP involved significant federal government intervention in Alberta's non-renewable resource sector by giving Ottawa 50% ownership of all new oil and oil sands discoveries. The NEP also set a price discount for all domestic crude oil sales.[92] The combination of this contentious intergovernmental situation and a dramatic shift in crude oil markets delayed the Alsands project from going forward, as construction costs jumped to $14 billion in 1982.[93] Oil prices in global commodity markets were on a dramatic decline since the early 1980s, marking a shift from previous highs in the late 1970s (Figure 10). The decline in crude oil prices was because of such factors as: an increase in global oil supplies; non-OPEC members selling their production below world prices to capitalize on lower production in Iran and Iraq; and reduced demand for OPEC oil after the outbreak of the Iranian Revolution.[94] Within this context the Alsands project was cancelled in early 1982, despite Lougheed offering 50% government ownership and the postponement of royalties and taxes. Examining the cause of Alsands being cancelled, the Canadian Petroleum Association reiterated that "the case-by-case

[91] N.a. "Alasands files with ERCB $5.9 billion project 137,000 b/d synthetic oil," *Calgary Herald*, December 15th 1978.

[92] For more on the National Energy Program see: Michael Walker, *Reaction: The National Energy Program* (Vancouver: The Fraser Institute, 1981); Peter Foster, *The Sorcerers Apprentice: Canada's Super-Bureaucrats and the Energy Mess* (Ontario: WM Collins & Sons & Co, 1982); G. Bruce Doern and Glen B. Toner, *The Politics of Energy: The Development and Implementation of the NEP* (Michigan: The University of Michigan, 1985).

[93] Tom Kennedy, "The Giant Killers," *Calgary Sun,* May 17th 1982.

[94] Chastko, 190.

approach" did not provide a viable investment climate."[95] Edmonton and Ottawa failed to develop an overarching oil sands development policy enforced through legislation.[96]

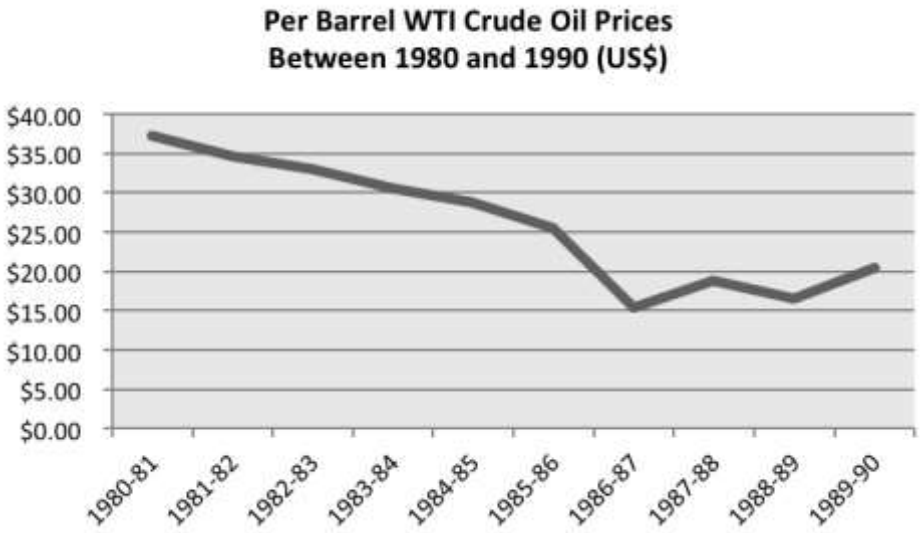

Figure 10: Between 1980 and 1990 crude oil prices per barrel were on a steep decline before bottoming out in 1986.

Source: Barry Thompson, *Alberta Resource Revenues: Historical and Budget* (Edmonton: Government of Alberta, last updated October 2014). Accessed online at: http://www.energy.alberta.ca/About_Us/2564.asp

The role of the government during this crucial stage of the emerging oil sands industry was not as a profit-sharer or stringent regulator, but as promoter and incubator, helping to grow a technology and capital-intensive industry to the point of self-sufficiency. The government attempted to provide stability for developers at the outset of project proposals by waiving its authority to collect royalties from oil sands operations. This trend was resoundingly clear as the government continued to offer royalty concessions up to the early 1990s. The government first started collecting royalties from Syncrude in early 1993 due to royalty credits and special provisions under

[95] Canadian Petroleum Association, "Future Oil Sands Development in Alberta," December 1982. Provincial Archives of Alberta: GA CPA Box 98 File 150.
[96] Chastko, 190 and 191.

the terms of the Crown Agreement.[97] When the government finally began collecting royalties from Syncrude the consortium of companies was taxed differently than other companies, because of how the Syncrude Crown Agreement was structured. Syncrude was taxed on a gross revenue royalty. When created in 1978, Lougheed's Progressive Conservative government provided favourable tax policies for Syncrude to overcome the early stage of oil sands development and ensure that the emerging industry could collect a profit from high operating costs and initial investments. In addition to favourable tax policies, in 1993 the government approved for Suncor to receive a royalty tax credit equivalent to $3.6 million for the purpose of meeting environmental regulations within the Clean Air license renewal program.[98] Between 1980 and 1997 under the project-by-project royalty regime the government collected roughly $3 billion in royalty revenue.[99] Following a decade of failed oil sands projects, delayed royalty revenue, and unstable crude oil prices, the 1990s marked a period of change, as Alberta transitioned away from the ad-hoc royalty regime.

Ralph Klein and the Generic Royalty Regime, 1995 to 2008

The 1990s marked the emergence of the oil sands sector as a large-scale commercial industry supported by an overarching government strategy towards oil sands royalty regulation. Over time the oil sands industry emerged as the major source of Alberta and Canada's crude oil production, as technological advancements and

[97] Government of Alberta, *Summary of Oil Sands Royalties Collected: 1990 Report Ending June 30,* Provincial Archives of Alberta, GR2005.0634, Box 4. Item 18201-0.

[98] Tom Collins, *Memorandum: Suncor Royalty Credit Pool*, Provincial Archives of Alberta, Accession No. GR2004.0381, Box 4, Item 21050-011. Doc. No 3.

[99] Barry Thompson, *Alberta Resource Revenues: Historical and Budget* (Edmonton: Government of Alberta, last updated October 2014). Accessed online at: http://www.energy.alberta.ca/About_Us/2564.asp

changing economic conditions led to private investments and project developments.[100] Interest in the oil sands increased as a result of declining conventional oil production and expectations that commodity markets would bounce back to higher oil prices. Within this climate for investment, a joint Alberta and federal government initiative outlined recommendations for a national oil sands development strategy. A further characteristic of shifting non-renewable development was the role played by new Premier Ralph Klein. Under Klein, the Progressive Conservative government maintained its role as promoter, offering preferential tax treatment to help offset the risk associated with early investment and start-up problems. However Klein implemented changes to the royalty regime in 1995 that gave the province greater responsibility as regulator. The governance approach established by Klein shaped the characteristics of the emerging oil sands industry, leading to a sustained period of rapid growth and increased revenue, but also problems related to cost inflation and environmental impacts.[101]

As demonstrated in Chapter two, Alberta's oil sands are part of a larger global oil market, and beginning in the early 1990s it appeared that commodity markets were set to bounce back from low oil prices throughout the 1980s. Investing in an oil sands plant

[100] Finance Canada, *The Budget Plan 2007-Aspire to a Stronger, Safer, Better Canada* (Ottawa: Government of Canada, Department of Finance, 2007).

[101] The environmental impact of oil sands development is arguably one of biggest challenges facing industry and government. Although this thesis does not address the history of oil sands environmental policy and regulation, this topic is part of a growing literature. See: Larry Pratt, *The Tar Sands: Syncrude and the Politics of Oil* (Edmonton: Hurtig Publishers, 1976); Andrew Nikiforuk*, Tar Sands: Dirty Oil and the Future of a Continent* (Vancouver: Greystone Books, 2010); Brendan Haley, "From Staples Trap to Carbon Trap: Canada's Form of Carbon Lock-In," *Studies in Political Economy* 88 (2011): 97-132; Tony Clarke, Jim Stanford, Diana Gibson, Brendan Haley, *The Bitumen Cliff: Lessons and Challenges of Bitumen Mega-Developments for Canada's Economy in an Age of Climate Change* (Ottawa: Canadian Centre for Policy Alternatives, 2013); William Marsden, *Stupid to the Last Drop: How Alberta is Bringing Environmental Armageddon to Canada (and Doesn't Seem to Care)* (Toronto: Vintage Canada, 2008).

was essentially a gamble on prices remaining high long enough to recover all operating costs, while also generating a substantial return on investment. [102] For an oil sands plant to remain in operation during the late 1980s, the price of oil was required to be above $11 per barrel.[103] However during the 1980s prices fluctuated dangerously low between $15 and $20.[104] In 1990 and 1991 global oil markets continued to suffer price shocks as war erupted in the Persian Gulf. Despite global political and economic uncertainty, the North American crude oil market demonstrated price stability. The signing of the Canada-United States Free Trade Agreement in 1988 between Prime Minister Brian Mulroney and President Ronald Reagan reinforced a larger commitment to regional trade liberalization. The Canada-United State Free Trade Agreement made specific commitments to establishing a secure domestic oil market.[105] Factoring into the price stability in North America was the decline in conventional oil production that increased the domestic price of North American crude oil. Forecasting a range of low, high, and base case scenarios, the provincial Minister of Energy Pat Black expected WTI prices per barrel to increase beyond $20 and $25 in 1998.[106] As for the price differential between

[102] Operating costs vary depending on a number of factors, the most significant difference being whether the oil sands operation extracts bitumen through surface mining or in-situ.

[103] Ronald A. Mcintosh and Kenneth N. Beckie, "W. Canada Heavy Oil, Tar Sands Resources," *The Oil And Gas Journal* 87,29 (1989): 73.

[104] The currency exchange rate of the Canadian dollar should be taken into consideration when discussing the operating costs compared to WTI, since WTI is set in US dollars before being converted to Canadian dollars when oil sands operators export commodities to US markets. If the US dollar is high and the Canadian dollar is low, oil sands operators will receive a larger share of revenue through the conversion. However, if the US dollar is lower than the Canadian dollar, returns from the conversion will be lower than had the oil sands operators sold the commodity domestically. Traditionally the US dollar has remained higher than the Canadian dollar, but fluctuations in currency rates were crucial to determining the revenue of oil sands operators and government royalties.

[105] Chastko, 215.

[106] Chastko, 5.

bitumen and crude oil, Black expected the difference to remain flat, because of increased exports to the United States following major pipeline expansions.[107]

In the context of an increasingly stable and favourable oil market, Ralph Klein governed Alberta between 1992 and 2002. Following Lougheed's retirement in 1985, Don Getty served as premier and leader of the Progressive Conservatives. Getty led a fractious cabinet and increased the provincial debt to $14 billion by 1992.[108] With support for the Progressive Conservatives dropping below the rival Liberal party, Getty resigned in 1992. Klein, who was previously Mayor of Calgary throughout the 1980s, was first elected to the provincial legislature in 1989. Following Getty's resignation, Klein and other Progressive Conservatives competed in an internal leadership vote to determine who would be the premier and leader of the party going into the 1993 election. Klein, to the surprise of many, defeated favourite Nancy Betkowski on the second ballot of voting with a victory of 60%. The election of 1993 was focused primarily on developing solutions to the growing provincial debt, during which both the Liberals and Progressive Conservatives voiced similar concerns. With Progressive Conservative support still damaged from the Getty years, Klein pulled off a surprise victory with 45% of the popular vote and 51 of the 83 seats available.[109] Klein's strategy for managing public finances and non-renewable resource development was founded on two interconnected pillars: encouraging business investment and reducing public spending. The rest of this

[107] Ministry of Energy, *Alberta Resource Revenue Foreacast: Five Year outlook, 1993/94-1997/98* (Edmonton: Government of Alberta, 1993), 3 and 12.
[108] J.P. Lewis, "If We Could All Be Peter Lougheed: Provincial Premiers and Their Legacies, 1967-2007," *British Journal of Canadian Studies* 25,1 (2012): 92.
[109] Lewis, 92.

section on Klein will focus on his approach to oil sands royalty regulation, while in the Chapter that follows I will discuss his management of public finances.

For Klein developing Alberta's oil sands became increasingly important for providing an alternative domestic crude oil supply and an additional source of revenue for provincial economic recovery. As early as 1975, the Energy Resources Conservation Board predicted the depletion of Alberta's conventional oil supply, since very few new wells were being discovered and those in production were slowly decreasing output.[110] The year of 1973 marked the peak in Alberta's conventional oil production (Figure 11). As conventional oil production declined, refineries in midwest United States expressed an interest in purchasing synthetic crude oil and bitumen from the oil sands.[111] It is within the context of unstable global oil markets, declining conventional oil production, and growing demand in the United States that the federal government and Alberta launched the National Oil Sands Task Force (NOSTF) to identify a clear vision for growth and further development of the oil sands.

[110] James G. Speight and Norbert Berkowitz, "The Oil Sands of Alberta," *Fuel* 54 (1975): 138.
[111] Ibid.

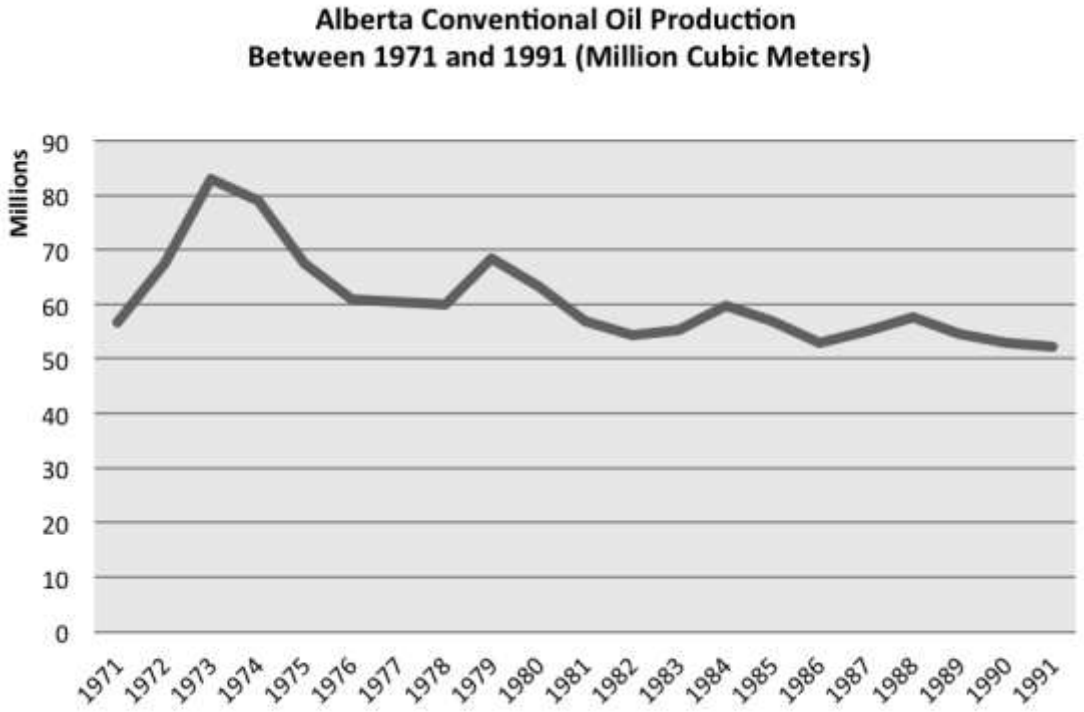

Figure 11: Alberta Conventional Oil Production, 1971 to 1991.

Source: Barry Thompson, *Alberta Resource Revenues: Historical and Budget* (Edmonton: Government of Alberta, last updated October 2014). Accessed online at: http://www.energy.alberta.ca/About_Us/2564.asp

The objective of the NOSTF was to outline recommendations for the provincial and federal governments to transition the oil sands from a marginal resource to a knowledge-based and technology-driven resource industry. [112] Prior to the 1990s, large-scale and capital-intensive surface mines characterized the oil sands industry. Prime Minister Brian Mulroney and Premier Ralph Klein cooperated on the creation of the NOSTF in the hope of advancing an industry that during the 1980s was marked by contentious Alberta and Ottawa negotiations, influenced by the legacy of the National Energy Program.

[112] National Oil Sands Task Force, *The Oil Sands: A New Energy Vision for Canada* (Edmonton: Alberta Chamber of Resources, 1995), 6.

On the issue of Alberta's fiscal regime, the NOSTF recommended a new royalty and tax system that was generic, stable, and a level playing field for investors.[113] The royalty was considered generic since it would apply to all oil sands producers, a contrast from the project-by-project crown agreements used by premiers Lougheed and Getty. Specifically the NOSTF proposed that "the mega-projects of the past 30 years, dependent for viability on government equity investments and continuous special pleading for fiscal treatment, should be scrapped for private sector-driven, market-responsive development."[114] The NOSTF believed that a new fiscal framework, which was generic and consistent, would maximize the economic efficiency of oil sands operations, minimize fiscal distortions, and encourage domestic value-added production.[115] On the means of royalty collection, it recommended the design of net-revenue royalty rates, as opposed to the gross revenue royalty rate. A gross revenue royalty rate collects revenue from the total profits of oil sands operations. Whereas a net-revenue royalty rate collects revenue from the total profits minus all allowed costs, as determined by the government setting the net-revenue royalty rate. For the NOSTF a gross revenue royalty would fail to maximize the value of the oil sands, since marginal projects would not be undertaken. Overall the goal of the NOSTF recommendations was to encourage investment in and development of the oil sands industry.

The recommendations of the NOSTF found a willing premier in Ralph Klein, who was committed to changing Alberta's royalty regime. Announced in 1995, but passed

[113] National Oil Sands Task Force, *The Oil Sands*, 25.
[114] Ibid.
[115] Ibid.

into law in 1997, the Oil Sands Royalty Regulation represented Klein's commitment to designing a standardized royalty regulation for current and future oil sands projects. The Oil Sands Royalty Regulation set a minimum gross revenue royalty rate of 1% for pre-payout and a maximum net-revenue royalty rate of 25% for post-payout. Payout was defined as the point at which the developer had recovered all initial capital costs plus a return allowance that was set at the Government of Canada's long-term bond rates. The net-revenue approach established allowed costs for oil sands projects that were deductible from the total profits taxed for royalty collection.[116] Klein and the Progressive Conservative government exercised decision-making power in determining the allowed costs within the Oil Sands Royalty Regulation.

Klein also shifted the basis of royalty collection from crude oil to bitumen, which gave the opportunity for producers to reduce the taxable portion of revenue, thus protecting a larger portion of income from government taxes. Through the Oil Sands Royalty Regulation, oil sands producers were given the choice of paying royalties on the production of bitumen or synthetic crude oil.[117] For oil sands producers paying royalties on synthetic crude oil provided advantages and disadvantages: capital expenditures on upgrading facilities would be eligible for calculating both payout and net-revenue royalties, but synthetic crude oil prices exceeded those for bitumen.[118] With additional upgraders built in the late-1990s,[119] companies were not limited by capacity constraints. As a result companies capitalized on the new regulation by paying royalties on bitumen.

[116] Allowed costs included all capital investments, research and development, and reclamation costs.
[117] Andre Plourde. "Oil Sands Royalties and Taxes in Alberta: An Assessment of Key Developments since the mid-1990s," *The Energy Journal* 30,1 (2009): 117.
[118] Ibid.
[119] See Chapter Two.

The Progressive Conservative government expected the new royalty regime to pay dividends over the long-term as the approach was "intended to provide an incentive for the capital investments necessary for the development of the oil sands."[120] Although Klein created a formal and generic royalty regulation for all oil sands producers, the Progressive Conservative government continued to create favourable tax regimes to encourage oil sands development under the expectation that the emerging industry was the main source of economic growth.

While all new projects would operate under the generic royalty regime, the government was required to engage in negotiations with Imperial Oil, Syncrude, and Suncor to change the special provisions offered under each company's individual Crown Agreement. In the case of Imperial Oil, Alberta signed the Imperial Transition Agreement in 2000 to bring all current and proposed operations at Imperial Oil's Cold Lake production project under the Oil Sands Royalty Regulation.[121] Syncrude and Suncor were offered similar agreements, but with the addition of special privileges. Klein specifically agreed to offer Syncrude and Suncor the right to negotiate any future changes to royalty regulations.[122] The continued existence of Crown Agreements would prove problematic in 2009 when Premier Ed Stelmach demonstrated an interest for increasing oil sands royalty rates through regulatory amendments. The immediate outcome of the Oil Sands Royalty Regulation was an influx of new oil sands projects and increased royalty

[120] Robert Mitchell et al., *Alberta's Oil Sands: Update on the Generic Royalty Regime* (Edmonton: Government of Alberta, 2002).
[121] Ministry of Energy, *Annual Report, 2000-2001* (Edmonton: Government of Alberta, 2001).
[122] Nigel Banks, "Alberta's Royalty Review and the Law of Grandparenting," *Institute for Advanced Policy Research* (2007): 4.

revenue. However the negative results of this rapid development were cost inflation and rent dissipation as a result of constraints in Alberta's labour supply.

The transition to the generic royalty regime, within the context of a booming investment climate, led to a flurry of new oil sands projects coming online. After the Oil Sands Royalty Regulation was announced in 1995, companies immediately began unveiling proposals for new projects.[123] Over thirty projects were planned for construction between 1996 and 2005, totalling roughly $13.65 billion in investment.[124] This boom period included expansions to Syncrude and Suncor's surface mining operations, new SAGD pilot projects, new steam injection pilot projects, an expansion to Husky Oil's Lloydminster upgrader, an expansion of Interprovincial Pipe Line's pipeline system from Fort McMurray to Hardisty, and others. Beginning in the mid-1990s the oil sands industry shifted from a sector with a few mega-projects to a vibrant and active commercial industry with projects of various sizes.

With a boom in full swing, the province was scheduled to collect increasing shares of economic rent. In 1994, government officials estimated that Syncrude, Canada's largest oil sands producer, paid $1.03 in royalties per barrel of oil sold for roughly $21.64. Under the new royalty regulation, Syncrude would pay about $1.22 per barrel of oil at a similar price.[125] Once implemented in 1997, the generic oil sands royalty regime collected the province $192 million in royalty revenue that same year. Prior to amendments in 2009, the generic oil sands royalty regime paralleled a significant

[123] N.a. "Royalty Incentives Spawn Alberta Oilsands Plan," *The Oil And Gas Journal* 93,51 (1995): 30.
[124] N.a. "Oil Sands New Investment: 1996-2005," *Calgary Herald*, September 1997.
[125] Alan Boras, "New Oil Sands Royalty Plan Praised," *Edmonton Journal*, December 1st 1995.

increase in royalty revenue, which equalled $3.2 billion over 12 years (Figure 12). While the Oil Sands Royalty Regulation certainly supported an increase in royalty revenue, it was not the only cause for increased revenue.[126] Rapid development reflected changes along the oil sands commodity chain, as oil prices increased steadily throughout the late 1990s and early 2000s (Figure 13). As a result of higher oil prices companies were more likely to gamble that prices would remain high long enough to recover operating costs, while also collecting a substantial return on investments.

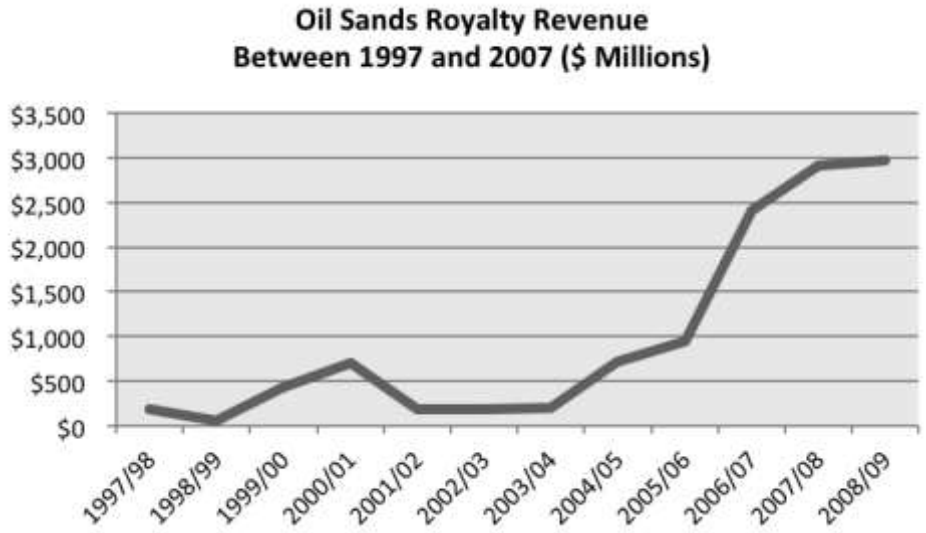

Figure 12: The above chart displays the increase in oil sands royalty revenue under the generic royalty regimes between 1997 and 2009.

Source: Barry Thompson, *Alberta Resource Revenues: Historical and Budget* (Edmonton: Government of Alberta, last updated October 2014). Accessed online at: http://www.energy.alberta.ca/About_Us/2564.asp

[126] An additional factor that contributed to the increase in royalty revenue was that Syncrude, Suncor, and new projects transitioned to the post-payout stage, in which royalty rates increased from 1% to 25%.

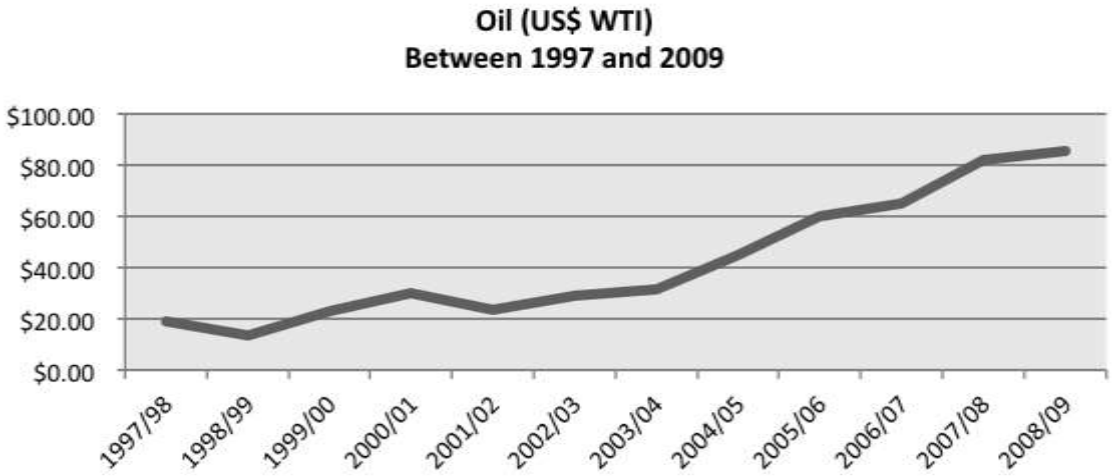

Figure 13: The above chart displays the increase in crude oil prices between 1997 and 2009, which paralleled an increase in oil sands royalty revenue.

Source: Barry Thompson, *Alberta Resource Revenues: Historical and Budget* (Edmonton: Government of Alberta, last updated October 2014). Accessed online at: http://www.energy.alberta.ca/About_Us/2564.asp

Despite the immediate economic benefits of Klein's changes to the oil sands royalty regime, beginning in 2001 the investment boom resulted in significant cost inflation as developers paid higher than market value for capital costs. In 2004, Syncrude paid an additional $2.5 billion to expand its surface mining operations and bitumen upgrading capacity.[127] In the same year, Suncor increased the costs of a proposed plant expansion by $3.6 billion.[128] In the in-situ oil sands industry, companies such as Nexen Inc. and OPTIC Canada Inc. experienced similar inflationary pressure as construction costs for a SAGD plant at Long Lake increased from $400 million to $3.4 billion.[129] Inflationary pressure created problems for the oil sands industry as companies paid increasing costs for proposed projects.

[127] Gordon Jaremko, "Syncrude Expansion Costs Jump By $2.1 Billion," *Edmonton Journal*, March 8th 2004.
[128] Claudia Cattaneo, "Suncor Expansion Costs Increase 20%: Project Enlarged, Inflation Raises Building Costs," *National Post*, November 18th 2004.
[129] Ibid.

Royalty regimes that are paid on a net-revenue approach experience dissipated economic rent and ultimately lower possible royalty revenue within periods of cost inflation. Economist Andrew Leach has described oil sands rent dissipation as a transfer of profits, royalties, and taxes to payments for labour and capital.[130] Under the Oil Sands Royalty Regulation, capital costs were deductible from royalty calculations. As development and cost inflation increased, the province essentially reduced its possible share of economic rent. In this situation economic rent was dissipated to high demand labourers and industries located along the supply chain. The outcome of cost inflation was counter to the objective of Klein's generic oil sands royalty regime, which was intended to provide added certainty for project developers within a booming investment climate.

Ed Stelmach and Alberta's 'Fair Share,' 2007 to 2011

Designing royalty regulations was an active process for determining how natural resource wealth was collected and distributed between government and private industry. As oil sands development expanded and crude oil prices continued to increase, a growing portion of the public and elected politicians questioned whether Alberta was collecting a fair share of economic rent from non-renewable resource development. Within this context, newly elected Premier Ed Stelmach amended the Oil Sands Royalty Regulation to a price sensitive model in 2008. The price sensitive model or 'floating' royalty regime was designed to collect greater royalty revenue for the province during periods of high oil prices. A new royalty structure did not change the value of the

[130] Andrew Leach, "Who Wins, Who Loses From Rising Production Costs In The Oil Sands: There Are More Losers Than You Think," *Maclean's Magazine*, September 3rd 2013.

bitumen extracted, as oil markets determined the value of the commodities produced. Instead the new royalty regime was a redistribution of how economic rent was allocated between developers and the public. Stelmach's Progressive Conservative government sought to collect more royalty revenue, which would reduce the total revenue of resource developers. Ultimately through Stelmach's changes to the royalty regime the Progressive Conservative government took on a greater role as profit-sharing owners of the non-renewable resource.

On September 20th 2006, Premier Ralph Klein announced his intention to resign as premier, beginning a new era of Alberta governance most clearly represented by changes to the Oil Sands Royalty Regulation. Instead of triggering a provincial election, the Progressive Conservatives were able to use a majority government to select a new leader for premier from within. The predominant issue of the Progressive Conservative leadership race following Klein's retirement was whether or not the province should change the royalty structure to collect a greater share of revenue. The emergence of this issue onto the agenda was triggered by various factors, which included: rapid oil sands development, increasing oil prices, and a change in political discourse. Progressive Conservative leadership candidates reflected this change in discourse, as the different candidates presented similar arguments for changing the royalty regime to increase royalty revenue. Leadership candidate Ted Morton believed that the "one per cent royalty break for oil sands operations" (pre-payout) was not allowing the province to receive a fair share. Morton argued that "a sliding scale" was needed to "deliver higher

royalties during lofty prices, and lower royalties when prices sink."[131] Candidates Jim Dinning and Dave Hancock also called for a comprehensive and transparent review of the entire royalty structure. Candidate Ed Stelmach agreed on the need to review the oil sands royalty regime, but added that the province needed "to explore ways to add value to the product, rather than just ship it raw."[132] Leading up to the leadership vote, Dinning was the early favourite, followed by Ted Morton in second, and Ed Stelmach in third. At the Progressive Conservative leadership convention, Stelmach would go on to win the leadership vote on the third ballot. Stelmach's first priority as premier was to organize a committee to review Alberta's royalty regime for light oil, oil sands, and natural gas.

The royalty review was an important moment in Alberta's history that facilitated a province-wide conversation over non-renewable resource regulations, development, and the government's role in collecting economic rent.[133] The royalty review was commissioned with the goal of determining whether Albertans were receiving a "fair share from energy development through royalties, taxes, and fees."[134] While the NOSTF was a joint federal, provincial, and industry initiative, the royalty review was an arms-length independent review. The panel was made up of industry consultants, academics, and Alberta government officials. The Chair of the royalty review, William H. Hunter was

[131] Jason Fekete, "Do Albertans Get Fair Share From Oil? Candidates Debate Resource Royalties," *Calgary Herald*, September 17th 2006.

[132] Ibid.

[133] Royalty reviews have been reoccurring moments in Alberta history that demonstrate open and transparent democracy, as engaged members of the public, government, and industry debate issues of economic rent and non-renewable resource development. A conventional oil royalty review occurred under Premier Peter Lougheed.

[134] Alberta Royalty Review Panel, *Our Fair Share: Report of the Alberta Royalty Review Panel* (Edmonton: Government of Alberta, Royalty Review Panel, 2007), 1.

the former President of the Alberta Chamber of Resources. The royalty review used a variety of platforms to engage stakeholders across Alberta. A website was launched to allow for the submission of research reports and private testimonies. Town halls were held in various communities. During the consultation process, oil sands companies commented to the royalty review panel that the generic royalty regulation was fair and appropriate. Oil sands companies argued that the generic royalty regime recognized "high oil sands costs and investment risks; from the variable quality of resource deposits to the harsh northern Alberta climate, unpredictable technology, and project schedules."[135] Junior oil companies also argued that a royalty hike would force companies to halt operations. EnCana, a SAGD operator, threatened to reduce the number of wells drilled in Alberta and relocate to another jurisdiction.[136]

During the consultation process, the Liberal party and New Democratic Party used the opportunity to criticize the Progressive Conservative party for offering unnecessary concessions to private industry. In particular the Liberal party argued that the net-revenue royalty system, which deducted capital costs, was no longer needed. [137] Discussions across opposition parties and public members framed the outcomes of the royalty review as a deciding "point in Alberta's history," with the possibility of changing "the political and economic future of the province."[138] Revealed from the contrasting statements by political parties and oil companies, vocal members of the province were

[135] Gordon Jaremko, "Oil Sands Producers Can't Afford Royalty Hike," *Edmonton Journal,* May 15th 2007.
[136] David Ebner and Katherine Harding, "EnCana Issues Royalty Warning," *The Globe and Mail,* September 29th 2007.
[137] Deborah Yedlin, "Alberta's future Hinges on Royalty Review Decision," *Calgary Herald*, October 24th 2007.
[138] Ibid.

divided over how to best collect and distribute the shares of economic rent created through development of publically owned non-renewable resources.

Ultimately the royalty review recommended changes to the Oil Sands Royalty Regulation to shift the balance of economic rent in favour of the government and public owners. In a report titled "Our Fair Share," the royalty review concluded that "Albertans do not receive their fair share from energy development" and that royalty rates have to keep pace with "changes in the resource base and world energy markets."[139] The royalty review proposed maintaining the gross revenue royalty rate pre-payout as well as the revenue minus cost system (net-revenue) post-payout. However for government to re-balance the sharing of economic rent, the royalty review recommended increasing the net-revenue royalty rate to 33% and introducing an oil sands severance tax (OSST). The OSST was intended to be payable upon commencement of production and price sensitive. The royalty review recommended that the OSST be set at a rate varying between 0% and 9%, depending on the prevailing nominal price of light crude oil.[140] To encourage upgrading, the royalty review recommended a tradable royalty credit at a rate of 5% of eligible capital expenditures on additional upgrading capacity. Royalty credits could be traded between bitumen producers to meet royalty obligations. The royalty review estimated that if all royalty recommendations were implemented, the proposed oil sands royalty regime would collect an additional $150 million by 2016.[141] The recommendations of the royalty review outlined changes to the basic framework of

[139] Alberta Royalty Review Panel, 7.
[140] Plourde, 119.
[141] Ibid., 17.

the Oil Sands Royalty Regulation, and importantly a new government strategy for managing oil sands development.

On October 25th 2007, Stelmach announced changes to the Oil Sands Royalty Regulation through a New Royalty Framework that took a piecemeal approach to the recommendations of the royalty review.[142] Stelmach specifically chose not to implement an OSST. Instead Stelmach tied both pre- and post-payout royalty rates to WTI prices converted into Canadian dollars.[143] More clearly stated, under the new regime all royalty rates were sensitive to changes in the price of oil. If the price of oil increased, royalty rates would also increase to a maximum of 9% for pre-payout and 40% for post-payout.[144] Stelmach's decision not to proceed with the introduction of the OSST can be attributed to the Progressive Conservative governments view that the creation of additional taxes would have significant consequences for private industry. On the topic of value-added upgrading, instead of implementing a market-based trading scheme, Stelmach transferred shares of the government's portion of economic rent to oil sands producers through various grants.[145] The purpose of switching to a price sensitive regime was to redistribute the economic rent from oil sands production to a more favourable balance between the public and resource developers.

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[142] Government of Alberta, *The New Royalty Framework* (Edmonton: Government of Alberta, 2007).

[143] Andrew Leach, "Should Jim Prentice Be Worried About Oil Prices?" *Maclean's Magazine*, October 15th 2014.

[144] Kenneth J. McKenzie, "Plucking the Golden Goose: Higher Royalty Rates on the Oil Sands Generate Significant Increases in Government Revenue," *The School of Public Policy* 3,3 (2011): 1

[145] Premier Stelmach's strategic approach to encouraging oil sands upgrading will be expanded on in "Chapter Four: Managing the Province's Share of Economic Rent," as the approach taken falls within the category of spending royalty revenue.

Stelmach's amendment of the Oil Sands Royalty Regulation to a price sensitive model was poorly timed as oil markets shifted to a wide spread between bitumen (WCS) and WTI in early 2009.[146] Although Stelmach designed a royalty regime that was intended to collect a greater share of royalty revenue during periods of high prices, this does not necessarily mean Alberta is collecting a greater share of total economic rent within the net-revenue system. Stelmach's new royalty rates were designed to increase with the WTI price of oil. However the majority of oil sands producers profited from bitumen prices set at WCS not WTI, because of a decrease in quality and transportation costs from northern Alberta. In 2009 the main market for oil sands producers in the midwest United States became saturated with increasing supplies of oil from oil sands production and an emerging fracking industry in North Dakota. With a greater supply of oil, refineries reduced the price they were willing to pay for bitumen. As a result, oil sands companies without integrated upgraders to produce more desirable synthetic crude oil received lower profits and paid higher operating costs during the period of continued cost inflation. Therefore the province's royalty base was much smaller, despite the fact that the rate of royalty collection was increased. The longer it took for companies to transition to the post-payout stage the greater royalty revenue was lost by the province.[147]

Across the three royalty regimes examined in this Chapter, Progressive Conservative premiers made decisions for the purpose of promoting oil sands

[146] See the end of Chapter Two for a full discussion of the price spread between bitumen and WTI.
[147] Max Fawcett, "Is Investment in the Oil Sands Slowing the Industry Down?" *Alberta Venture,* December 16th 2013.

development during periods of changing exctractive practices and fluctuations in commodity markets. Changes to the royalty regime by each premier used different approaches to taxing and encouraging oil sands development. Lougheed's project-by-project approach to royalty collection during the 1970s and 1980s was intended to grow an industry with significant financial and technological risks through direct state involvement and low royalty rates. During the 1990s, favourable oil prices and growing investment interest triggered a boom in oil sands development. In this context, Klein created an overarching royalty regulation for proposed projects. As oil prices continued to increase, Stelmach transitioned Klein's Oil Sands Royalty Regulation to a price sensitive model. Stelmach's royalty regime was intended to collect a greater share of economic rent for Albertans, but beginning in 2009 the economy, government, and private industry suffered from cost inflation and the widening price spread between bitumen and WTI. Examining the same period between 1971 and 2011, the next Chapter will focus on the spending and saving of non-renewable resource revenue to encourage oil sands development, as private industry struggled with overcoming issues of resource quality. Just as Lougheed, Klein, and Stelmach were fundamental to the design of royalty regulations, each Progressive Conservative premier made different political and economic decisions for managing Alberta's public finances.

Chapter IV: Managing the Province's Share of Economic Rent

After the economic rent from natural resource development is collected, the government engages in a process of prioritizing how public funds will be saved and spent. Examining crude oil markets in California, historian Paul Sabin demonstrated the potential for government expenditures to constrain public choices.[148] Sabin identified how the political construction of the marketplace for natural resources artificially shaped the price of oil. In particular, Sabin examined the influence of state tax policies and investment.[149] Sabin argued that the user-financing system and the collection of state gasoline taxes earmarked for highway construction constrained market and public choices, thus fortifying an "infrastructure of consumption" for oil.[150] Sabin's approach to examining public financial records influenced how this Chapter examined the oil sands royalty regime and the management of public finances. Although regulations shape resource development activities by setting rules for certain actions, public financial investments encourage specific public and private choices through monetary support.

The focus of this Chapter is on three different Progressive Conservative government initiatives for managing public finances and non-renewable resource revenue: the Alberta Heritage Savings Trust Fund (Heritage Fund), the Alberta Investment Management Corporation (AIMCo), and the Bitumen Royalty In-Kind program (BRIK). The Heritage Fund was created by Lougheed in 1976 to save non-

[148] Paul Sabin, *Crude Politics: The California Oil Market, 1900-1940* (Berkeley, Los Angeles, London: University of California Press, 2005): 10 and 159.
[149] Ibid., 4.
[150] Ibid., 10 and 159.

renewable resource revenue for future uses and to strengthen or diversify the economy for the benefit of all Albertans. Successive premiers Getty, Klein, and Stelmach each approached the Heritage Fund with different strategies for managing public finances and non-renewable resource development. During the royalty review, as the province was engaged with discussing alternative strategies for collecting greater economic rent, Stelmach created AIMCo in 2008 and BRIK in 2009. Although premiers prior to Stelmach used public finances for a range of investment purposes, AIMCo was an attempt by Stelmach to separate the investment of non-renewable resource revenue from the influence of provincial politics. As such, AIMCo was established as an arms-length Crown Corporation with a non-government board. BRIK was a program created to support domestic oil sands upgrading by collecting royalty payments in semi-processed bitumen, which were than earmarked for constructing and operating an upgrader. Focusing specifically on Stelmach's AIMCo and BRIK initiatives will provide an understanding of his approach to managing the spending of non-renewable resource revenue during an important period of rapid oil sands development, changing economic conditions, and the beginning of the increased price spread between bitumen and WTI.

This Chapter will provide additional information on the relationship between global oil markets and public finances in Alberta in relation to the theoretical literature that has used staples theory to examine oil sands development. Tony Clarke and others argue that Canada and specifically Alberta were in a staples trap as the rapid extraction and transportation of raw unprocessed bitumen led to an economy that was less

diversified and more dependent on export markets.[151] A resource economy that is in a staples trap is dependent on the capital and marketing potential of foreign centres that purchase raw unprocessed products for further manufacturing.[152] Staples analysis has also focused on the importance of fiscal linkages and how economic rent, generated from resource extraction, is collected and distributed among the owners of the staple.[153] Thomas Gunton has argued that for an economy caught in a staples trap, a large portion of economic rent is forgone by the public owner, retained by the private sector, or reinvested back into the staple region.[154] Contemporary staples theorists have identified bitumen as Canada's newest staple, in which Alberta's domestic non-renewable resource economy was described as dependent on the importation of capital and technology. [155] Furthermore Alberta's economy was framed as being exposed to commodity price distortions, which resulted in highly volatile booms and bust business cycles.[156]

Progressive Conservative premiers have managed the flow of economic rent throughout the economy with different strategies. Lougheed made significant steps to saving non-renewable resource revenue with the creation of the Heritage Fund. Lougheed also demonstrated attempts to subvert a staples trap through spending public finances on advanced technological innovations, while Klein used public finances to

[151] Clarke et al., 1.
[152] Innis, 5.
[153] Thomas Gunton, "Staple Theory and the New Staple Boom," in *The Staples Theory @ 50: Reflections on the Lasting Significance of Mel Watkins' "A Staples Theory of Economic Growth,"* ed. Jim Stanford (Ottawa: Canadian Centre for Policy Alternatives, 2014), 46.
[154] Ibid.
[155] Brendan Haley, "From Staples Trap to Carbon Trap: Canada's Form of Carbon Lock-In," *Studies in Political Economy* 88 (2011): 110.
[156] Drache, 59.

overcome provincial deficits. By contrast, Stelmach actively subsidized the development of a value-added upgrading industry through the BRIK initiative, a program that proved problematic during the unfavourable oil market conditions following 2009. Approaches to the spending and saving of public finances have been structured by Alberta's boom and bust economy, because of a reliance on incredibly volatile oil markets.

Alberta the 'Petro-State' and Non-Renewable Resource Revenue

For an economy to be considered in a staples trap, one of the key characteristics is a government budget that is dependent on revenue from one particular raw resource. Dependence on one resource limits the possibility of economic diversification. A spending mentality during periods of resource booms can lead to over investment in the staple industry, which during periods of economic bust leave behind a legacy of rising debt and increasingly difficult to finance public services.[157] These are just a few of the economic dynamics within a boom-bust cycle.

Between 1971 and 2011, the four Progressive Conservative premiers of Lougheed, Getty, Klein, and Stelmach used different strategies for spending and saving public finances. Prior to examining each Progressive Conservative premier, it is important to consider the financial history of Alberta between 1905 and 1971. Across this period the Liberal Party of Alberta (1905-1921), United Farmers of Alberta (1921-1935), and Social Credit party (1935-1971) managed public finances and non-renewable resource revenue in a manner that contrasts with the Progressive Conservative governments of later years. In the *Financial History of Alberta, 1905-1950,* Eric J. Hanson

[157] Gunton, 45.

argues that the early history of Alberta's public finances was mainly affected by two factors: the large transportation costs of moving bulk resources across the province, and the cyclical and structural economic changes from the fluctuating demand for wheat, petroleum, and other raw natural resources.[158] Alberta became a province in 1905 through the Alberta Act. Alexander Rutherford, Alberta's first premier, governed during a period of rapid investment, as immigrant populations settled in the province. In 1905 the federal government was still in full control of Alberta's natural resources. Rutherford managed the public finances by collecting provincial revenue through a series of railway user taxes, land registration fees, taxes on private corporations developing public land, as well as an educational tax on lands outside public school districts.[159] As the population expanded Rutherford required increasing revenue to pay for contracts to construct highways, telephones, and public buildings.[160] Arthur Sifton (1910-1917) and Charles Stewart (1917-1921) succeeded Rutherford as premier. In 1914 Alberta's Treasurer C.R. Mitchell delivered a budget surplus.[161] As government expenditures continued to increase for public construction efforts to attract new populations and business, the Liberal premier Charles Stewart, pressured Mitchell to increase existing taxes. In the years that followed, the Liberal government levied various taxes, but in particular a tax on coal production in 1918.[162] The Liberal party would stay in power

[158] Paul Boothe and Heather Edwards, editors, *Eric J. Hanson's Financial History of Alberta, 1905-1950* (Calgary: University of Calgary Press, 2003), xxiii.
[159] Ibid., 36.
[160] Ibid.
[161] Ibid., 64.
[162] Ibid.

until 1921, during which time government spending increased from $8 million in 1914 to $29 million in 1921.[163]

After defeating the Liberal party in the election of 1921, the United Farmers of Alberta (UFA) governed Alberta over a period of turbulent social and economic changes. The UFA began as a non-partisan lobbying group. After periods of frustration with the Liberal government, Herbert W. Greenfield led the farmer and worker movement to political office. As the economic depression and draught arrived in Alberta during the early-1920s Greenfield provided farmers with seed and grain relief that eventually pushed the province into bankruptcy.[164] Amid falling grain prices and coal miner strikes over demands for higher wages, Greenfield was replaced by John Edward Brownlee as premier in 1925. To pay for the increasing debt Brownlee sold off the provincial railways to an equal partnership of Canadian Pacific Railway and the Canadian National Railway for $25 million.[165] Brownlee also oversaw the federal government passage of the Natural Resource Act in 1930, which gave Alberta control over all natural resources and public lands. Despite new powers to levy additional taxes on natural resources and manage the sale of public lands, continued drops in grain prices and urban unemployment caused Brownlee to deliver a series of budget deficits between 1930 and 1934.[166] The undoing of the UFA government emerged as the Social Credit party gained popularity with their solutions for Alberta's worsening economy.

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[163] Ibid.

[164] David C. Jones, "Herbert W. Greenfield, 1921-1925," in *Alberta Premiers of The Twentieth Century*, ed. Bradford J. Rennie (Regina: University of Regina Press, 2004), 63.

[165] Franklin L. Foster, "John E. Brownlee, 1925-1934," in *Alberta Premiers of The Twentieth Century*, ed. Bradford J. Rennie (Regina: University of Regina Press, 2004), 89.

[166] Boothe and Edwards, 125.

Under the leadership of William Aberhart, Social Credit won the 1935 election by promising to resolve issues of government debt and class divisions through direct relief in the form of social dividends and fiscal reform.[167] Founded on the writings of Major C.H. Douglas, the Social Credit movement supported the notion of eliminating bank-created debt through a system of credits funded by publically owned resources.[168] In 1936 Aberhart followed through on the promise of social dividends to public citizens by printing prosperity certificates as the Alberta's government's own currency.[169] To fund Social Credit's goals of monetary reform and credit relief, Aberhart created the Mineral Taxation Act in 1937. The Mineral Taxation Act established criteria for the government to collect royalties, fees, and rentals on coal and other mineral lands leased to private companies.[170] The creation of the Mineral Taxation Act and royalties on coal and mineral lands fell under the powers granted to the province following the Natural Resource Act of 1930. With the onset of the Second World War, Aberhart negotiated with the federal government the 1942 Tax Agreement, in which Alberta collected compensation for suspending corporate income taxes during the war and one year after.[171] In 1943 Aberhart died while premier, to be replaced by Ernest Manning. Under Manning, Social Credit used fiscal policy to reduce capital risks for private businesses

[167] Finkel, 33.
[168] Franklin, 96.
[169] Elliot, 136.
[170] Ibid., 206.
[171] Boothe and Edwards, 197.

through low royalty and income tax rates.[172] In the election of 1971 Social Credit was defeated by the Progressive Conservative party.

The focus of this Chapter is on three Progressive Conservative saving and spending initiatives: the Alberta Heritage Savings Trust Fund (Heritage Fund), the Alberta Investment Management Corporation (AIMCo), and the Bitumen Royalty In-Kind program (BRIK). The Heritage Fund was created in 1976 by Lougheed, and has since been at the centre of public and political debates regarding province finances and dependence on non-renewable resource revenue. Premiers Lougheed, Getty, Klein, and Stelmach each approached the Heritage Fund through different strategies that reveal the impact of changing historical economic and politic conditions on decision-makers. Both AIMCo and BRIK were Stelmach-created initiatives that warrant specific attention because of the changes made to Alberta's spending of non-renewable resource revenue. Furthermore both AIMCo and BRIK provide added insight into the complexity of Alberta's staples trap and specifically the exploitation of the oil sands.

Saving Wealth: Heritage Fund and Intergenerational Equity

Political economies are a complex system where money is created, collected, and distributed within the context of broader political and economic objectives. Peter Lougheed implemented the Alberta Heritage Savings Trust Fund Act on May 19th 1976, which created and gave force to the Alberta Heritage Savings Trust Fund. A biography written on Lougheed by Allan Tupper notes the premier's experience working for Oil Gulf in Tulsa, Oklahoma prior to life in politics as exposing the young Albertan to the

[172] J.C. Herbert Emery and Ronald D. Kneebone, "Socialists, Populists, Resources, and the Divergent Development of Alberta and Saskatchewan," *Canadian Public Policy* xxxiv,4 (2008): 423.

"substantial decline of a once oil-rich city" and a possible future for Calgary and Edmonton.[173] Once elected as premier in 1971, the initial years of Lougheed's Progressive Conservative government were characterized by rising crude oil prices. In 1973, oil prices skyrocketed as the Organization of Petroleum Exporting Companies (OPEC) reduced global supply of petroleum in protest of United States' military intervention in the Middle East. In Alberta the OPEC oil crisis increased provincial royalty revenue as higher prices increased the returns of oil producing companies, and in turn the associated benefits of royalty taxation. For Lougheed the OPEC oil crisis created a sense of urgency to save growing provincial revenue for when Alberta's non-renewable resources would inevitably be exhausted. Lougheed viewed the Heritage Fund as a solution to separate non-renewable resource revenue from government spending.[174]

The Heritage Fund was also created within the context of Lougheed's expansion of the Alberta government across various public and private sectors. Specifically the Heritage Fund draws similarity to the Syncrude joint-venture, in which Lougheed, and by extension the provincial government, took an active role as joint-owner of an oil sands project.[175] Overall the creation of the Heritage Fund signalled recognition by the Lougheed government that the rapidly increasing royalty revenues would not continue indefinitely.

The Heritage Fund was originally intended to accomplish three main objectives: save for the future, strengthen or diversify the economy, and improve the quality of life

[173] Tupper, 205.
[174] Tupper, 222.
[175] Background information on Syncrude is provided in Chapter Two. Specifically see page 57 and the discussion of the Syncrude Crown Agreement between private industry and the provincial and federal governments.

for Albertans.[176] The Heritage Fund received an initial transfer from the General Revenue Fund[177] of roughly $2 billion, and thereafter was scheduled to receive 30% of the province's annual non-renewable resource revenue. In 1980, Deputy Provincial Treasurer A. F. Collins described the 30% annual transfer rate as acceptable to the Alberta public, in which any lesser transfer "would have represented an insufficient commitment to the province for the government saving our resource wealth on behalf of Albertans."[178]

However as oil prices dropped in the early 1980s the provincial economy stagnated. Lougheed retired from provincial politics in 1985 after having served as premier since 1971. After his retirement, Lougheed indicated to Don Getty and other candidates during the Progressive Conservative leadership contest that the new premier would have to tackle a budget deficit of $2.5 billion as a result of dropping oil prices that reached as low as $10 a barrel in April 1985. Within the context of dropping oil prices, an Alberta Treasury financial planning document noted that provincial corporate income taxes and royalty taxes were set for losses of $1 billion for the fiscal year 1986-87 and rising to $1.5 billion by 1989-90.[179] The result of this price drop can be attributed to

[176] Government of Alberta, *Heritage Fund – Historical Timeline* (Edmonton: Government of Alberta, 2014). Accessed online at: http://www.finance.alberta.ca/business/ahstf/history.html

[177] The provincial budget draws funding through the General Revenue Fund. The General Revenue Fund was the basic savings account of the government, where all sources of public revenue were collected. The government than had the option of transferring a portion of this revenue into the Heritage Fund or using it to pay-off existing debt or expenditures for the given fiscal year. Surplus revenue on a yearly basis can be carried over to the next year. Once collected, non-renewable resource revenue was considered no different than any other form of capital income.

[178] Collins, 158-65.

[179] Mark Lisac, "Don Getty, 1985-1992," in *Alberta Premiers of The Twentieth Century*, ed. Bradford J. Rennie (Regina: University of Regina Press, 2004), 235.

many factors, but in particular OPEC producers flooding the market with oil.[180] On November 1st 1985 Getty defeated rival candidates Ron Ghitter and Julian Koziak to become leader of the Progressive Conservatives. To prevent high-cost oil sands companies from shutting down operations, Getty provided an interest-free loan of $85 million to Syncrude and reduced Suncor's rate of royalty collection from 12% to 1%.[181] These measures pushed the provincial budget into further deficit.

By the time that the public deficit reached $3.4 billion in 1987, the Heritage Fund had totalled roughly $12.5 billion. While the budget deficit increased, Getty gradually reduced and then in 1987 stopped the percentage of non-renewable resource revenue transferred to the Heritage Fund. The intention of ending transfers to the Heritage Fund was so that royalty revenues could be used to cover public spending, thus reducing the potential for the public deficit to increase further. By 1992 the provincial debt had reached $14 billion, and members of the public urged the government to begin removing savings from the Heritage Fund as a means of containing the growing public debt.[182] Amid swirling controversy and anger over the public debt Getty resigned as premier in 1992. Getty's Progressive Conservative successor Ralph Klein made the reduction of public debt a priority.

Klein was selected as leader of the Progressive Conservatives in 1992, leading the party into the 1993 provincial election that was fought over how to best resolve the $3.4 billion deficit. During the election campaign, the Liberals led by Laurence Decore and

[180] Ibid., 234.
[181] Lisac, 236.
[182] George Oake, "Klein Urged to Dip Into Giant Heritage Fund," *Toronto Star,* February 15th 1993.

Klein's Progressive Conservative argued for deep cuts to government spending.[183] In contrast the New Democrat Party favoured tax hikes to address the deficit problem. Prior to the election, Klein laid out the government's four-year timetable to eliminate the deficit in the Deficit Elimination Act of May 1993, which committed the government to reducing spending by 20%.[184] Klein was ultimately able to win a majority government in June 1993. As premier from 1993 to 2006 Klein governed during a period of drastic changes to managing the saving and spending of public finances.

The "Klein Revolution" was significant in that it led to drastic cuts to the public service, which gradually resulted in the elimination of government deficit and debt.[185] The changes to the oil sands royalty regime discussed in the previous Chapter can be placed with the same time period of the Klein Revolution, as they involved the government redesigning fiscal policies to create conditions for encouraging private investment. In terms of managing public finances, Klein committed to a 20% reduction in public spending. Klein and the Progressive Conservative government accomplished the 20% reduction in public spending through a shrinking of the size of the public service. By May 1995, Klein had the government eliminate 1,000 public service positions. [186] Some of the cuts to public spending included reductions to essential services, in which the government during 1994 cut $280 million for health care, $245

[183] Ronald Kneebone, "Recent and Not so Recent Trends in Provincial Government Spending in Alberta," *Department of Economics Discussion Papers* 4 (2002).
[184] Lisac, 263.
[185] Lewis, 264.
[186] Public response to Klein's spending cuts is not examined by this thesis. For more detail see: R. Gibbins, "Staying the Course? Historical Determinants of Debt Management Strategies in Western Canada," in *Deficit Reduction in the Far West: The Great Experiment,* ed. Paul Boothe and Bradford Reid (Edmonton: University of Alberta Press, 2001).

million for education, $140 million for post-secondary education, and $100 million for social services.[187] By 1995 the deficit was eliminated as the province began earning more income than was spent each year. While the deficit was eliminated, Alberta had still collected a $14 billion debt based on the accumulation of yearly deficits since 1985. To address the debt, Klein examined the roughly $12 billion Heritage Fund as a potential source of funding.

The process leading to Klein's changes to the Heritage Fund involved an all-party elected government committee that questioned whether or not to liquidate the Heritage Fund entirely. The committee led by Progressive Conservative member of the Legislative Assembly Clint Dunford organized internal government debates and public hearings.[188] In late December 1994, while in the process of creating the committee, Klein stated that "frankly, I will not be the premier who simply says `I am going to get rid of the fund,' unless Albertans tell me loud and clear that's what they want us to do.''[189] In practice, the process of liquidating the Heritage Fund would involve selling all of the assets purchased by the government using Heritage Fund dollars, as well as transferring all Heritage Fund savings to pay off the debt. Instead of liquidating the Heritage Fund entirely Klein implemented amendments to the Alberta Heritage Savings Trust Fund Act in 1995.

The changes Klein made to the Heritage Fund shifted towards a greater emphasis on creating additional wealth through various loans and investments, as opposed to

[187] Bradford, 265.
[188] Mark Lisac, "Hard to See How Getting Rid of Heritage Fund Can Save Us Money," *Edmonton Journal* October 4th 1994.
[189] Don Martin, "Heritage Fund Must Go Or Be Overhauled," *Calgary Herald,* December 6th 1994.

securely saving non-renewable resource revenue.[190] The Progressive Conservative government decided that the provincial debt should be reduced through increasing the earnings from Heritage Fund investments, rather than selling Heritage Fund owned assets. Writing for the Fraser Institute, a conservative think-tank, Robert Murphy and Jason Clemens argue that the purpose of the Heritage Fund was shifted to "producing the greatest financial return on those savings for current and future generations."[191] The restructured Heritage Fund included an endowment portfolio to focus on long-term financial returns, as well as a new government policy that integrated net-income from the Heritage Fund into the General Revenue Fund. Net-income refers to gains in the size of the Heritage Fund above the total saved at the beginning of each fiscal year. The purpose of transferring net-income from the Heritage Fund was to continue a balanced provincial budget while also gradually eliminating the total government debt. Under Klein, increasing portions of the Heritage Fund's annual income were transferred to the General Revenue Fund (Figure 14). The money being transferred was generated through interest payments, returns on investments, turn over on the sale of investments, and the change in value of stocks, bonds and real estate owned by the Heritage Fund.[192] While the Heritage Fund was originally created by Lougheed in 1976 as a tool for saving revenue for future generations when non-renewable resources are depleted, this masters thesis interprets that the Klein government modified the Heritage Fund in 1995

[190] Alberta Heritage Savings Trust Fund, *Annual Report, 2009-2010* (Edmonton: Government of Alberta, 2010), 5.

[191] Robert P. Murphy and Jason Clemens, "Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway," *Fraser Institute* (2014): 10.

[192] Government of Alberta, *Budget 2007: Managing Our Growth, Fiscal Plan 2007-2010* (Edmonton: Government of Alberta, 2007).

to function as a financial lender to the provincial government and by association the services and programs provided. Overall the restructuring of the Heritage Fund was significant as it changed the government's management of how non-renewable resource wealth was saved.

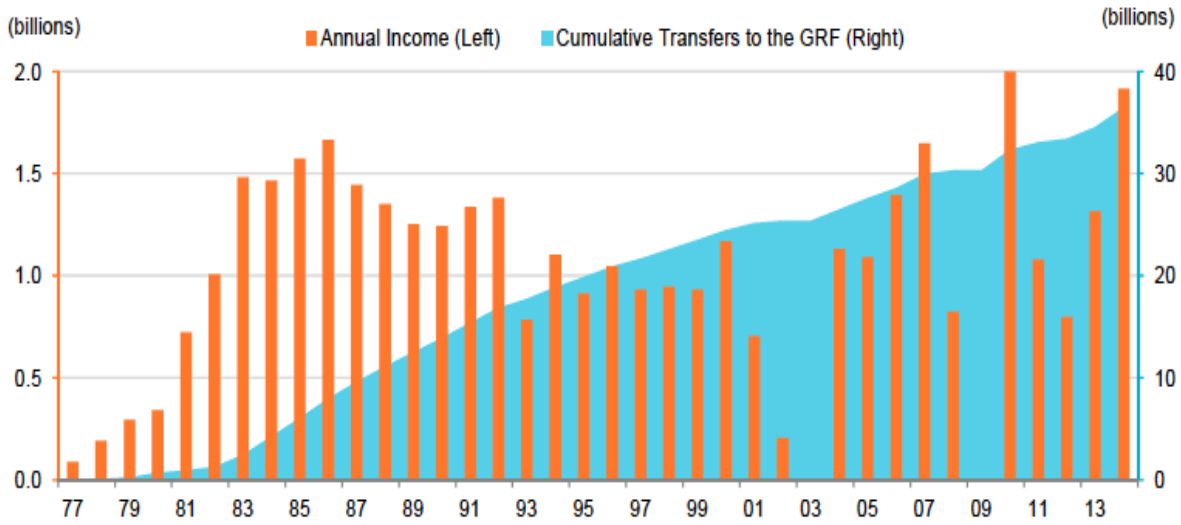

Figure 14: The graph above depicts the annual investment income of the Alberta Heritage Savings Trust Fund and the increased portion of annual income transferred to the Government Revenue Fund.

Source: Alberta Heritage Savings Trust Fund, *Annual Report, 2013-2014* (Edmonton: Government of Alberta, 2014): 10.

Since the owners of a non-renewable resource are not just those in the present but future generations as well, the principle of intergenerational equity is key to understanding how governments manage non-renewable resource development. As described by economist Jack Mintz: "every time you're pulling oil from the ground, which is an asset owned by the government, you're borrowing from the future."[193] In theory an ideal savings fund that aims to respect intergenerational equity will save all

[193] Quoted in: Max Fawcett, "Money for Nothing: The Province vs. Non-Renewable Resource Revenue." *Alberta Venture* May 5th 2014. Accessed online at: http://albertaventure.com/2014/05/non-renewable-resource-revenue/

the below ground wealth collected by the government in financial assets above the ground, so that the total monetary value, both above and below, remains constant; so long as commodity prices are steady.[194] Therefore total economic rent generated from non-renewable resource development is saved, not spent. As the savings fund grows through investments the government can continue to save or spend the net income, allowing the total wealth to remain level or greater, but not reduced.

Taking a long-view of the Heritage Fund based on the principle of intergenerational equity, it is clear that in Alberta the portion of non-renewable resource revenue saved has remained less than the amount collected and spent in the General Revenue Fund. Since 1980, for every billion dollars the province collected in non-renewable resource revenue, only $78.4 million was saved in the Heritage Fund. The total amount of revenue saved in the Heritage Fund never exceeded $16 billion, due to net-income transfers to the General Revenue Fund. This is not to say that the government did not save for future generations, but that the portion saved was much less than the portion spent.

Characteristics of the oil sands commodity chain and political economic traditions shaped how the Progressive Conservative government saved economic rent from oil sands development. A greater examination of government spending strategies will reveal how significant portions of royalty revenue were distributed to private industry in the form of direct subsidies and indirect investments on financial markets. Chapter Three on designing oil sands royalty regulations demonstrated a close

[194] Tony van den Bremer and Rick van der Ploeg, "Digging Deep for the Heritage Fund: Why the Right Fund for Alberta Pays Dividends Long After Oil is Gone," *The School of Public Policy* 7,32 (2014): 5.

relationship between private industry and the government. This relationship was carried over to the management of government spending strategies.

Spending Wealth: AIMCo and BRIK

In Alberta private oil producers transformed non-renewable resource wealth in the ground (in the form of light oil, bitumen, and natural gas) into monetary wealth above ground.[195] Once above ground, economic rent was collected by the Alberta government in the form of non-renewable resource revenue. From 1976 to 2010 roughly $31 billion was transferred from the Heritage Fund to capital projects and various public programs. In 1978 Peter Lougheed used roughly $1 billion of Heritage Fund dollars as part of the Syncrude Agreement between a consortium of private companies and the federal and provincial government.[196] Between 1974 and the mid-1990s, premiers Lougheed and Don Getty also invested a total of $448 million of Heritage Fund dollars towards the Alberta Oil Sands Technology and Research Authority (AOSTRA).[197] Following Klein's 1995 changes to the Heritage Fund there was a greater emphasis by the Progressive Conservative government on using the Heritage Fund as a tool for investing in infrastructure projects and financial markets. This change was most

[195] Michael Hoffman, "The Economic Impact of the Alberta Heritage Savings Trust Fund on the Consumption-Savings Decision of Albertans," *Western Centre for Economic Research* 35 (1996): 1.

[196] Peter J. Smith, "The Politics of Plenty: Investing Natural Resource Revenues in Alberta and Alaska," *Canadian Public Policy* 17,2 (1991): 142.

[197] Created in 1974 by Peter Lougheed, AOSTRA funded and coordinated technological research and development, sharing costs and information with other public and private organizations. AOSTRA advanced in-situ technology and horizontal drilling methods, which increased underground bitumen extraction. Following twenty six years of research and development, AOSTRA was eventually shutdown in 2000 when its responsibilities were assumed by the Alberta Energy Research Institute and Alberta Innovates: Energy and Environmental Solutions. This transition was part of a gradual shift away from state-funded and led resource organizations, placed within the context of Klein's reduction in public spending in the mid-1990s. For more on AOSTRA, see Paul Chastko's *Developing Alberta's Oil Sands: From Karl Clark to Kyoto* (Calgary: University of Calgary Press, 2007).

clearly represented by Ed Stelmach's decision to manage Heritage Fund investments through the Alberta Investment Management Corporation (AIMCO).

Created in 2008, AIMCO was responsible for managing Alberta's saved non-renewable resource wealth collected in the Heritage Fund. At the time Stelmach had already made changes to the oil sands royalty regime to collect the public's fair share of economic rent, and the creation of AIMCo was envisioned as an additional opportunity to grow Alberta's public finances through the coordinated investing of money from the Heritage Fund. AIMCo was officially created as a Crown Corporation with a non-government board. Leo De Bever was appointed AIMCo's CEO; an economist with experience managing the Ontario Teacher's Pension Fund. While AIMCo was initially created to manage Heritage Fund savings, over time it expanded to include various pension plans (public service, local authorities, judges, special forces) as well as special purpose government funds, such as the Workers Compensation Board, Alberta Securities Commission, and the Alberta Cancer Prevention League.[198] Cumulatively AIMCo managed upwards of $74.7 billion assets. Successful investing by AIMCo benefited Albertans as monetary earnings were added to pension plans and government financing of public services. Prior to AIMCo, the Alberta Treasury Board of Finance and the Minister of Finance determined Heritage Fund investments based on approval from cabinet.

Before examining the history of AIMCo it is important to clarify background information on financial markets. A financial market was a centralized institution where

[198] Alberta Investment Management Corporation, *Annual Reports, 2009-2013* (Edmonton: Alberta Investment Management Corporation, 2009-2013).

people and entities exchange securities, commodities, and currencies.[199] Securities represented stocks and bonds, but a security was also known as an equity. Equities were public or private depending on whether or not a buyer purchased such equities on the open market. As previously discussed in Chapter Two on the oil sands commodity chain, commodities reflected the price of physical goods traded on futures markets. The cost of items traded on a financial market was signified by multiple pricing dynamics. A stock, share, or equity represented partial ownership of the profits and losses produced by a particular company. As the value of the security goes up, the owner of a stock will collect earnings from the initial investment. If the value of the security drops, the owner also loses a percentage of the initial investment.

In a short business history since 2008, AIMCo has managed a massive scale of collected assets through global and regional investments. AIMCo invested in private equities, public equities, bonds, and real estate properties. Just as the Great Recession of 2008 shocked the global and North American economy, AIMCo was under pressure to avoid risky investments that could result in a loss of Heritage Fund savings. The Great Recession of 2008 was the result of the subprime credit crisis. The credit crisis resulted in steep declines in the real estate value of properties in the United States, and a lack of financial stability for banks to provide loans without government support.[200] Within uncertain economic conditions AIMCo investments under the leadership of CEO Leo De

[199] Roger LeRoy Miller et al., *Economics Today: The Micro View* (Toronto: Pearson, Addison Wesley, 2008), 176.
[200] Ibid., 177.

Bever were concentrated towards information technologies and consumer products, with some of the largest investments going towards the healthcare sector (Figure 17).[201]

By 2013 AIMCo's portfolio of investments in private equity shifted to a greater emphasis on energy companies (Figure 15). Following the start of the 2008 Great Recession, it was oil prices that continued to increase. Oil prices moved from $85 per barrel WTI at the start of 2008 to consistently above $100 per barrel WTI in mid-2013. During this period Bever shifted AIMCo's financial market investments to the energy sector, despite the risk it posed for an Alberta economy already tied to the boom-and-bust business cycles of volatile oil prices. As described in AIMCo's 2013 Annual Report: "markets evolve and we have to evolve as well."[202] Although the range of AIMCo's investments were numerous, with a scope beyond the reach of this masters thesis, two particular examples of AIMCo investments in Alberta's non-renewable resource sector stand out. In June 2009, AIMCo invested $280 million towards the CCS Income Trust, a servicing company that operates within Alberta's oil industry.[203] In the same year AIMCo also loaned Precision Drilling $206 million.[204] Precision Drilling was an Alberta-based oil and gas servicing company that provided customers with drilling rigs, tubing, camps, rental equipment, and water treatment. AIMCo financial support for CCS Income Trust and Precision Drilling were intended to encourage the expansion of oil service

[201] Private equity is an asset class consisting of equity securities and debt in operating companies that are not publicly traded on a stock exchange.

[202] Alberta Investment Management Corporation, *Annual Report, 2012-2013* (Edmonton: Alberta investment Management Corporation, 2013).

[203] N.a. "Alberta Investment Management Corporation Looks After Oil Patch Assets," *Alberta Oil,* June 1st 2009.

[204] Laureen Krugel, "AIMCo Chief Keen On North America Investments, But Says Processes Too Slow," *The Canadian Press,* November 21st 2013.

companies that lacked a continuous labour supply to meet the growing demands from oil producers that rushed to develop the oil sands at a price between $85 and $100 per barrel. AIMCo investment in CCS Income Trust and Precision Drilling were a significant example of how non-renewable resource revenue was used to support the continued development of the oil sands sector, often through in-direct means such as loans provided to oil servicing companies.

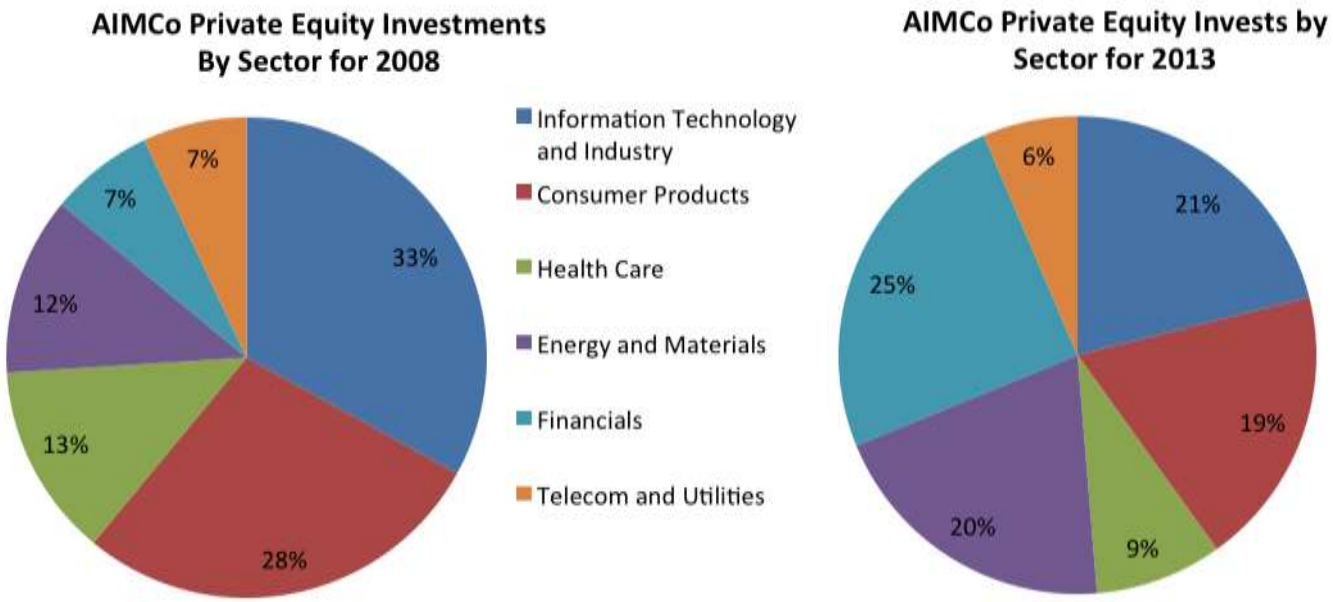

Figure 15: Comparison of AIMCo private equity investments in 2008 and 2013. Notice the large increase in investments towards financials and, and the 7% increase for energy and materials.

Source: Alberta Investment Management Corporation, *Annual Reports, 2009-2013* (Edmonton: Alberta Investment Management Corporation, 2009-2013).

The consequence of AIMCo financial market investments indirectly encouraging non-renewable resource development was that it also exacerbated the risks of a downturn in the booming economy. Support for non-renewable resource companies on

financial markets provided additional financial backing for companies to recover costs as well as take on projects that were previously too risky or marginal. Peter J. Nielsen has criticized AIMCo's investment decisions for exacerbating the influence of oil price volatility on Alberta's economy. Nielsen argues that as oil prices dropped AIMCo, and the Heritage Fund's returns from companies on the TSX were reduced.[205] Nielsen argues that drops in the value of energy company stocks reduced the province's share of economic rent as companies were less likely to take on financial risks or reduced production to deal with weaker economic conditions.[206] The economic consequences of AIMCo support for non-renewable resource companies operating in Alberta can be demonstrated by returning to the Precision Drilling case. Following AIMCo's $206 million loan, Precision Drilling recorded a 49% drop in earrings because of poor management decisions. As a result, AIMCo suffered a significant lose of yearly earnings. This decision by AIMCo drew public criticism from elected officials, such as the Alberta Liberal party's energy critic Kevin Taft, who argued that: "by investing in a drilling company, we're actually feeding into the boom-and-bust cycle, rather than having a government policy that runs counter to it."[207] While Stelmach only created AIMCo in 2008, the strategic investment management company has in a short time significantly shaped Alberta's economy and the use of savings collected in the Heritage Fund.

Alberta has relied on the non-renewable resource sector to support the provincial budget, yet the oil sands industry produces commodities that have faced

[205] Peter J Nielsen, *Energy Income and Optimal Investment Policy for the Alberta Heritage Savings Trust Fun*d (MA Thesis Project Submitted to Simon Fraser University, 2006), 26.

[206] Ibid.

[207] Renata D'Aliesio and Lisa Schmidt, "How AIMCo has been Investing Alberta's Money; Quest for Higher Returns Creates Wedge for Critics of Fund Manager," *Calgary Herald,* May 3rd 2009.

steep price discounts related to transportation costs and quality reductions. The oil sands industry has been a price taker, reliant on the commodity prices offered by refineries outside of the province. To counter this problem, the Stelmach government sought to encourage the development of an oil sands upgrading industry. Oil sands upgrading, as discussed in Chapter Two, is the stage in the commodity chain where bitumen is processed by an upgrader or refinery to create a higher valued product. During the initial years of oil sands development in the 1970s, Lougheed required large projects to upgrade heavy crude to light crude oil products on site or at capable refineries in Edmonton before moving to market. Alternatively as the industry matured and Lougheed retired from politics in 1985, new oil sands projects that began production in the late-1980s and throughout the 1990s opted instead to send the heavy crude oil directly to market – without upgrading or refining it locally.[208] The reason for this shift, as described by economist Andrew Leach, was because the conditions for upgraders to make a financial return by converting bitumen to synthetic crude oil changed, as inflation throughout Alberta increased the cost of supplies and labour to construct and operate already expensive projects. Leach argued that "upgraders captured value based on the expected future spreads between heavy oil or bitumen and synthetic oil."[209] While oil sands extraction projects were a bet that oil prices would be high-enough for an extended period of time to recover upfront costs and collect a substantial return on investment, upgrading projects were a bet that the differential

[208] IHS CERA, *Extracting Economic Value from the Canadian Oil Sands: Upgrading and Refining in Alberta (or Not)?* (Cambridge, Massachusetts: IHS CERA, 2013), 3.
[209] Andrew Leach, "The Economics of Upgrading," *Rescuing the Frog*, February 18th 2012.

between bitumen and light oil would remain separated over a significant period of time. Essentially companies required certainty that the spread would remain wide enough to recover the capital costs of building a plant. Beginning in 2009 the differential remained large, but there was also a growing expectation that new pipeline developments and expanded rail transportation of crude oil would reduce this differential.[210] As private industry chose not to build upgraders, the Alberta government was then faced with the choice of either developing regulations to require companies to build upgraders or providing some form of loan or subsidy to encourage private industry to take on the financial risks of oil sands upgrading.

From these options the Stelmach government chose to subsidize oil sands upgrading, which represented a significant share of economic rent from non-renewable resource development being spent or leaked back towards private industry to encourage the construction of capital-intensive projects. Staples theory argues that a resource economy caught in a staples trap is dependent on external sites for assembly, processing and manufacturing of higher valued commodities. However, value added industries often do not develop under unfavourable market conditions unless supported through government intervention. In 2009 Stelmach responded to this issue through the development of the Bitumen Royalty-In-Kind (BRIK) program. BRIK involved the government collecting oil sands royalty payments in semi-processed bitumen, which was than earmarked for use in domestic upgraders. Essentially part of the strategy was

[210] The heavy oil price differential was a situation that emerged in 2009, with most previous oil market trends prior to 2009 demonstrating a tight correlation between crude oil benchmarks. See "Chapter Two: Oil Sands Commodity Chains and Global Oil Markets."

for the provincial government to act as a broker, accepting bitumen in lieu of royalties and selling the resource at a premium or lower than market value price to an upgrader built in Alberta.[211] Following changes to the oil sands royalty regime and the creation of AIMCo, BRIK was another branch of Stelmach's intervention into Alberta's oil sands sector. As the price differential between WTI and WCS reached margins of roughly $15 to $20 per barrel following 2008 Stelmach conceived that BRIK was essential to reduce the operating costs of oil sands upgraders.

When created in 2009, BRIK received mixed responses from members of the public, political opposition, and oil producers. Critics of the program, such as Gil McGowan, the president of the Alberta Federation of Labour,[212] argued that BRIK was simply a public relations effort since the program was planned to represent under 6% of the 1.2 million barrels per day of bitumen produced from the oil sands.[213] Oil sands producers viewed BRIK as an opportunity to gain added support for the construction of expensive upgrading plants, but were wary that the program would only provide support for a few of the potential projects to be proposed.[214]

Following a competitive request for proposals, Alberta signed the first BRIK agreement with the Northwest Upgrader in 2009.[215] The province agreed to supply 37,500 barrels per day of semi-processed bitumen for domestic upgrading. Through the

[211] Lisa Schmidt, "Province to Accept Bitumen Payments," *Calgary Herald,* March 19th 2009.
[212] The Alberta Federation of Labour is a voluntary association of unions and employee organizations. The Alberta Federation of Labour functions as an lobbying group that advocates for the government to implement policy and regulations supporting unions, workers rights, and job creation.
[213] Gil McGowan, "Bitumen Upgrading Likely Will Never Be a Big Employer in Alberta; Government's Support for Pipelines Dashed Any Hopes of Keeping Jobs Here," *Edmonton Journal,* July 28th 2009.
[214] Gordon Jaremko, "In-Kind Bitumen Royalties Could Spur Upgrading Here." *Edmonton Journal*, October 26th 2007.
[215] The Northwest Upgrader has yet to be constructed, and is expected to have final costs of $8.5 billion.

Northwest Upgrader and the BRIK program the province provided a discounted supply of bitumen to be used as feedstock for the upgrader. Although oil prices fluctuated, at $80 per barrel WTI the BRIK program involved the government spending the equivalent of roughly $300,000 per day.[216]

This Chapter on managing the province's share of economic rent has demonstrated the politics and economics of Alberta's strategy for saving and spending non-renewable resource revenue. Progressive Conservative governments were responsible for collecting the Alberta public's share of economic rent, while prioritizing the use and distribution of total government revenue across society. The non-renewable nature of the oil sands created challenges for ensuring that the monetary wealth extracted from the ground was saved and spent to the additional benefit of future generations that are also owners of the resource. Under multiple Progressive Conservative governments, Alberta's economy and provincial budget were exceptionally vulnerable to fluctuations in global oil markets, with marginal amounts of revenue saved for future generations. The public's share of economic rent was saved through sovereign wealth funds, and invested in economic development initiatives and financial markets. The Klein government specifically spent royalty revenue to reduce large deficits that had resulted from earlier boom-and-bust business cycles. Whereas the Lougheed and Stelmach governments transferred large portions of the royalty revenue back to the oil sands industry in the form of subsidies and financial market investments that were intended to encourage increased development and technological advancements. Overall

[216] Andrew Leach, "Refine It Where You Mine It?" *Rescuing the Frog*, April 21st 2012.

Alberta's reliance on incredibly volatile oil markets has exposed the significant problems created from the Progressive Conservatives management of the province's public finances.

Conclusion

The collection and distribution of economic rent were mechanisms for the government to manage the risks and rewards of non-renewable resource development in globally connected commodity markets. Economic rent was defined here as the difference between the price a resource was sold for and the total discovery, extraction, production, and opportunity costs for investing in projects of significant risk and scale. Although the definition was pretty straightforward, the process of transforming non-renewable resources located in the ground to the public's share of economic rent above ground was an incredibly politicized situation. There were multiple alternatives for collecting economic rent, whether through lease sales, government ownership, royalties, corporate income taxes, or annual rental fees. Royalties can be collected in various designs: higher, lower, or fluctuating royalty rates, and net-revenue vs. gross royalties. Once collected, economic rent can be managed separately from the government budget or amalgamated with other sources of public revenue. The process of distributing economic rent by spending and saving involves the government prioritizing certain responsibilities and public services over others, as the immense monetary wealth created through non-renewable resource development is managed for the benefit of present and future generations.

As this thesis demonstrates, Progressive Conservative governments under premiers Lougheed, Klein, and Stelmach designed tax polices and managed public finances to encourage oil sands development that was hindered by the unfavourable characteristics of bitumen from the oil sands. The Progressive Conservative government

was responsible for collecting the public's share of economic rent and prioritizing the use and distribution of total government revenue across society. The three different royalty regimes under Progressive Conservative governments since 1971 maintained similar mechanisms of tax policy to advance oil sands development, such as royalty tax credits, direct government ownership during periods of risky and high-cost operations, allowed costs, and low royalty rates. Furthermore the Progressive Conservative governments also transferred large portions of royalty revenue back to the oil sands industry in the form of direct subsidies and indirect investments to companies listed on financial markets. Designing royalty regulations and managing public finances was a political process of determining how economic rent should be distributed between key players. The Progressive Conservatives' relationship with the oil sands industry and a perception of the oil sands as the main source of economic opportunity were some of the key factors that shaped how economic rent was collected and distributed.

The historiography of natural resource development and management has focused on the role of the government in industrialization and commodification. It is important to recognize that the public is the principal owner of the resources. In theory the government is acting on the public's behalf, while private companies are brought in to maximize the amount of economic rent that can be generated through development.[217] In Alberta's oil sands there was a clear maturation of the industry from a research experiment (prior to 1968), to marginal production with a few mega-projects (1968-1994), to large-scale commercialization with numerous developers of various

[217] Mintz, "Capturing Economics Rents From Resources Through Royalties and Taxes," 4.

sizes (1994 to present). As the oil sands industry transitioned between the different stages, Alberta's role shifted from promoter to regulator to profit-sharer. Alberta has also indirectly shaped oil sands development through public financing mechanisms, as non-renewable resource revenue was saved and spent to reduce the impacts of volatile global oil markets as well as encourage the growth of a domestic upgrading industry. State investments in financial markets were one of the most indirect mechanisms for the Alberta government to encourage oil sands development, which requires further historical research to reveal the movement of capital across different financial institutions and public agencies.

The different Progressive Conservative premiers examined by this thesis designed royalty regimes and managed public finances for the purpose of promoting oil sands development. Premiers Lougheed and Getty designed royalty agreements on an ad-hoc project-by-project basis that provided favourable royalty rates, tax concessions, and state involvement as a joint-owner. As promoters of the oil sands industry, Lougheed and Getty sought to ensure financial stability for the emerging industry. In addition to designing favourable crown agreements with private industry, Lougheed also used Heritage Fund savings to support oil sands development and technological advancements, such as spending $1 billion as part of the Syncrude Agreement and $448 million towards Alberta Oil Sands Technology and Research Authority projects. The 1990s marked a change in government approach to regulating the oil sands industry, as well as a gradual emergence of the oil sands from a marginal resource to a key contributor to Alberta's total oil production. Within this context, Klein implemented the

Oil Sands Royalty Regulation as a generic royalty regime for all oil sands projects. While the generic royalty regime represented the Klein government taking on greater responsibility as a regulator, the government maintained the role of promoter by establishing favourable royalty rates and shifting the basis of collecting oil sands royalty revenue from synthetic crude oil to bitumen. The next fundamental shift in oil sands governance occurred under Stelmach with changes to the Oil Sands Royalty Regulation, as the government sought to balance the distribution of economic rent in favour of the public owners. Stelmach eventually compromised with private industry and established allowed costs that reduced the amount of taxable revenue. Stelmach also created AIMCo and BRIK, which were both public-spending initiatives to expand the energy sector through transfers of government revenue to private industry. All of the premiers examined by this thesis sought to encourage private investment and development of the oil sands industry, which was understood as a source of economic opportunity for the province that was best developed through limited government taxation.

This thesis focused on Alberta Progressive Conservative government strategies for collecting and distributing economic rent in the context of changing global oil markets. Up to the beginning of July 2014, WTI oil prices maintained a consistently high level between $80 and $110 per barrel since the early 2000s. However following July 2014, the price of oil plummeted, reaching roughly $45 per barrel WTI in January 2015 (Figure 16). As a result of this price drop-off, the province was expected to post an

annual revenue shortfall of $6-7 billion, roughly 15% of the total provincial revenue.[218] Within a low price environment, Premier Jim Prentice, recently elected in October 2014, continued to view the oil sands industry as the main source of economic opportunity and wealth. As the economy transitioned to a bust period, Prentice argued that he would not increase corporate tax rates or oil royalty rates to rescue the provincial economy from the drastic plunge in oil prices.[219] Public finances and royalty regulations under Prentice have, in the initial months of a new period of low prices, been designed to support non-renewable resource development, despite the consequences of relying on volatile oil markets as the main source of government revenue.

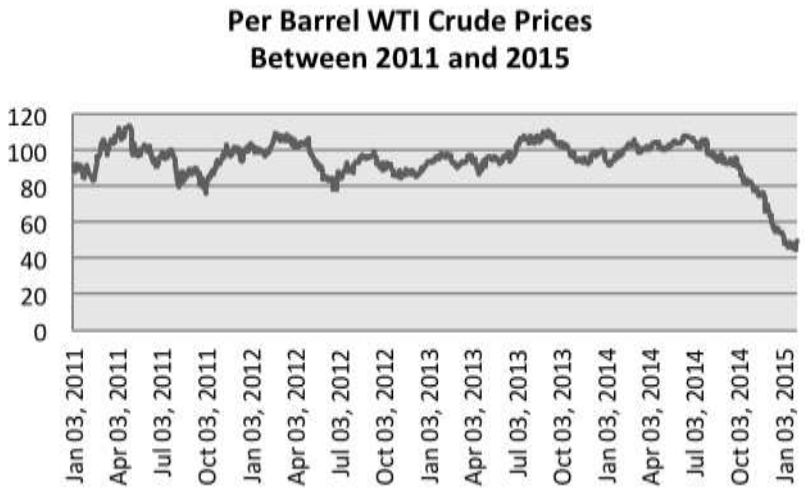

Figure 16: The chart above demonstrates the drop in WTI oil prices per barrel in July 2014.

Source: United States Energy Information Administration, *Petroleum and Other Liquids: Spot Prices* (Washington: U.S. Department of Energy, Energy Information Administration, 2014). Accessed online at: http://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm

[218] Government of Alberta, *Alberta's Fiscal Challenges: A Primer for Discussion* (Edmonton: Government of Alberta, 2015).

[219] N.a. "Jim Prentice Will Not Raise Corporate Tax To Compensate For Low Oil Prices," *The Canadian Press,* February 3rd 2015.

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