

**INVESTING IN CANADIAN TAR SANDS:
TENURE, FISCAL, COMMERCIAL AND POLITICAL ISSUES**

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§ 1.01. Introduction

[1] Background.

The oil reserves found in the Alberta tar sands (now referred to in Canada as "oil sands") are second only to the reserves of Saudi Arabia, with an estimated 1.7 to 2.5 trillion barrels in place, and recoverable reserves in the range of 174 billion barrels. They are contained in three major areas beneath 54,000 square miles of north-eastern Alberta, an area the size of the state of New York. To date, only about two percent of the initial established resource has been produced.¹

* The author wishes to acknowledge the contributions of Thomas R. Booth, Adam L. Horne and Chad W. Roth. Mr. Booth is an associate with Fraser Milner Casgrain LLP and Messrs. Horne and Roth are presently articulated to the firm.

¹ Alberta Department of Energy (2004) **Oil Sands** [Internet], Government of Alberta, Canada.

The amount of capital expected to be invested in new and existing oil sands projects over the next decade is staggering. Estimates of capital expenditures to construct all announced projects (new and expansions of existing projects) over the period 2006 to 2015 total U.S. \$107.5 billion.² Although not all projects are expected to proceed as originally scheduled, if all currently announced projects proceed as planned, total production from the oil sands could reach 4.4 MMb/d by 2015.³

The opportunities for investment in this area of the Canadian energy sector are significant in this era of high oil prices, with the prices of shares in the top oil sands plays rising an average of 200 percent in 2005. While a number of American energy companies have been involved from the outset, many more have recently entered the field as project proponents and joint venturers. In addition, major international energy companies from France (Total), China (Sinopec) and Japan (Japan Canada Oil Sands Limited) have committed to large-scale investments in the oil sands and the Korean government recently announced its intention to acquire an oil sands mine through its national oil company.

Available from: < <http://www.energy.gov.ab.ca> > [Accessed December 14, 2006].

² All amounts will be shown in U.S. dollars using an exchange rate of C\$1 = US\$0.86.

³ National Energy Board (2006), **Canada's Oil Sands Opportunities and Challenges to 2015: An Update** [Internet], National Energy Board. Available from: <<http://www.neb.gc.ca/energy/>> [Accessed December 14, 2006].

The purpose of this paper is to discuss some of the key legal and regulatory aspects regarding the oil sands that may be of interest to companies contemplating investments in this sector. The legislative and regulatory regime governing acquisition of mineral rights to oil sands will be reviewed. The rather unique royalty system will also be discussed, including its potential use to achieve non-fiscal policy objectives. Commercial issues that could impact the risks of oil sands investments will be highlighted.

Detailed discussion of the regulatory process governing the development of oil sands projects and the major environmental issues associated with such development is not included herein, as these matters are the subject of another paper at this conference. The paper will conclude by identifying a number of future developments on the political front that could be relevant to potential investors.

[2] What are Oil Sands?

Oil sands are deposits of bitumen, a viscous oil that will not flow unless heated or diluted with lighter hydrocarbons. The Alberta oil sands are contained in three major areas: the Athabasca, Cold Lake and Peace River areas.⁴ Each of these fields uses distinct methods to recover the bitumen from the oil sands.

⁴ Alberta Department of Energy (2004) **Oil Sands** [Internet], Government of Alberta, Canada.

Available from: < <http://www.energy.gov.ab.ca> > [Accessed December 14, 2006].

The oil sands found in the Athabasca area are primarily located at depths shallow enough to mine (generally within 250 feet of the surface). The method employed to exploit these reserves is open-pit mining using giant 400 ton trucks and shovels. Athabasca deposits located too deep to mine (typically 600 to 1500 feet below surface) are currently recovered using *in situ* technologies, with the current preferred method being Steam Assisted Gravity Drainage (SAGD). This involves the drilling of two horizontal wells on top of one another. Steam is injected into the top well, heating the bitumen, which flows to the bottom well, where it is then pumped to the surface.

In the Cold Lake area, the main recovery system used is Cyclic Steam Stimulation (CSS), a technique that involves injecting steam through vertical wells and allowing the oil to soak for several months. The Peace River oil sands are accessed using a mix of thermal and cold production schemes.

Each of the *in situ* methods described above requires massive amounts of heat and, accordingly, significant volumes of natural gas are currently consumed in the existing projects, with far greater volumes needed in the future to serve new and expanded projects.

Due to its viscous nature, the bitumen produced from the oil sands requires blending with a diluent to allow for transportation to downstream markets. Much of the bitumen is blended with condensate from natural gas or with a synthetic crude oil. Because of its high carbon content (83 percent on average) bitumen must be upgraded to crude oil before it can be refined into common petroleum

products. Significant volumes are currently processed through upgraders located near the extraction sites.

[3] Significance of the Oil Sands

Development of the oil sands has provided enormous economic benefits to the province of Alberta and to the Canadian economy as a whole. In recent years other countries have also recognized the importance of the oil sands to the future global energy supply. They arguably represent the largest and safest source of crude oil for North America and, potentially, for other areas such as Asia where countries share the United State's desire to access new sources of crude oil and reduce their dependence on Middle East supplies.

In 2005, Alberta's oil sands were the source of about 58 percent of the province's total crude oil and equivalent production and about 39 percent of all crude oil and equivalent produced in Canada.⁵ Crude bitumen production has grown four-fold since 1990 and reached over one million barrels per day during the government's 2005-2006 fiscal year.⁶ Royalties from oil sands in the recent fiscal year were \$817 million out of total provincial oil royalties of \$2.1 billion and are expected to climb to \$2.13 billion for the 2006-2007 fiscal year.⁷

⁵ id.

⁶ Alberta Ministry of Energy, 2005-2006 Annual Report at p. 18

⁷ *ibid* at p. 18

The economic impacts of continued oil sands development will be widespread. The Canadian Energy Research Institute, in a study spanning the years 2000-2020, forecasts that the development and production activities associated with the oil sands will lead to an increase in Canadian GDP of Cdn. \$789 billion over the study period. The annual GDP impact of oil sands by 2020 is expected to equal 20 percent of total Alberta GDP and 3 percent of Canadian GDP.⁸

§ 1.02. Oil Sands Tenure

[1] History.

The Province of Alberta (the provincial Crown) owns the mineral rights to approximately 81 percent of Alberta's 163 million acres. These rights were transferred to the provincial Crown from the Government of Canada (the federal Crown) via statute in 1930. Crown mineral rights include the rights to petroleum, natural gas, oil sands, and other minerals. The remaining 19 percent of mineral rights to Alberta's land are held by the federal Crown (e.g. within national parks and Indian reserves) or by freehold owners. Freehold owners include successors to the Hudson's Bay Company, national railway companies and successors of homesteaders who settled before 1887 and were granted mineral rights to their

⁸ "Economic Impacts of Alberta's Oil Sands", Canadian Energy Research Institute, 2005 at p. x

lands.⁹ For the most part, freehold mineral rights are found in the southern part of Alberta, far from the oil sands areas.

The provincial Crown owns 97 percent of oil sands mineral rights with freehold owners holding the remainder. The provincial Department of Energy (“Alberta Energy”), on behalf of the citizens of the province, manages mineral rights owned by the Alberta Crown.¹⁰

In 2006, a total of 856 parcels in the Athabasca, Cold Lake and Peace River areas, comprising over 3.8 million acres, were sold through public offerings of Crown oil sands rights. The average price paid for these rights was \$443 per acre. In comparison, in 2004 there were 336 parcels sold, representing over 700,000 acres, for an average price of \$97.11 per acre.¹¹

[2] Leasing Process and Rights.

As mentioned above, Alberta Energy administers Crown mineral rights. To facilitate the acquisition of mineral rights within a drilling spacing unit (typically one well per quarter-section for oil and oil sands), the Crown may lease lands

⁹ Alberta Department of Energy (2006), **Alberta Oil Sands Tenure Guidelines - Principles and Procedures, June 15, 2006**, at 1-1. [Internet]. Government of Alberta, Canada. Available from: < <http://www.energy.gov.ab.ca> > [Accessed December 15, 2006].

¹⁰ id.

¹¹ Alberta Department of Energy (2004) **Oil Sands** [Internet], Government of Alberta, Canada. Available from: < <http://www.energy.gov.ab.ca> > [Accessed December 14, 2006].

through a direct purchase if the applicant meets certain requirements.

Requirements for direct purchase include:

- (a) Crown rights comprise less than 50 percent of the spacing unit;
- (b) the applicant must have the oil sands rights to freehold lands within the spacing unit;
- (c) rights granted in the Crown lease must correspond with those of the freehold agreement;
- (d) a minimum bonus payment; and,
- (e) payment of annual rental and lease issuance fee.¹²

If an applicant does not wish to purchase Crown rights on the above terms it may proceed to post the lands through the public offering process.

Public offerings of mineral rights are held every two weeks. Oil sands rights are issued as leases or permits through a competitive and confidential bidding system. The highest bidder wins the right to “drill for, win, work, recover and remove” minerals owned by the Crown.¹³

¹² Alberta Department of Energy (2006), **Alberta Oil Sands Tenure Guidelines - Principles and Procedures, June 15, 2006**. [Internet]. Government of Alberta, Canada. Available from: < <http://www.energy.gov.ab.ca>> [Accessed December 15, 2006] at 2-11.

¹³ Alberta Department of Energy (2006) **Facts on Oil Sands Tenure** [Internet], Government of Alberta, Canada. Available from: < <http://www.energy.gov.ab.ca>> [Accessed December 14, 2006].

As of 2006, approximately 67 percent of Alberta's oil sands (approximately 11,000 square miles) were not leased and were therefore available for exploration and leasing.¹⁴

Sales of mineral rights are initiated by posting requests submitted by companies or individuals. Once a posting request has been received, Alberta Energy determines whether the rights are available and then advises the requestor of any access restrictions. If the requestor wishes to proceed, the rights are offered for sale as a parcel. Parcels consist of three elements: the substances, the rights and the lands to which those rights pertain. Oil sands parcels are advertised in a public offering notice published on Alberta Energy's website eight weeks in advance of the sale.¹⁵

To bid on the mineral rights in a public offering, companies must be registered to do business in Alberta and have an Electronic Transfer System (ETS) account. ETS gives users access to a web-based posting and bidding system. Participants submit electronic bids up until 12:00 p.m. on the day of the sale. The winning bidders and the amount paid for each parcel of land are published on the website after each sale.¹⁶

Oils sands leases are administered under the *Oil Sands Tenure Regulation*.¹⁷ This regulation governs both primary leases and continued leases for oil sands.

¹⁴ id.

¹⁵ id.

¹⁶ id.

¹⁷ Alta.Reg. 50/2000

Primary leases are typically issued through the public offering process and are issued for a term of 15 years. Continued leases are extensions of primary leases and are granted subsequent to the satisfaction of two criteria: the extent to which the lessee has evaluated the oil sands covered by the lease and whether or not the lease is producing. Contingent upon satisfaction of the minimum evaluation and production criteria, an oil sands lease may be continued indefinitely.¹⁸

Oil sands permits are an alternative to oil sands leases. Permits are issued for a five-year term. Permit holders who satisfy evaluation criteria may apply for a primary lease covering selected sections of the permit lands.¹⁹

The above mentioned evaluation for the continuation of an oil sands lease requires the drilling of evaluation wells for assessing oil sands zones contained within leased lands. Two options exist for such evaluation:

- (a) Pursuant to s. 3(2) of the *Oil Sands Tenure Regulation*, evaluation wells may be drilled on each section included in an agreement; or
- (b) Pursuant to s. 3(3) of the *Oil Sands Tenure Regulation*, evaluation wells may be drilled on at least sixty percent of the sections

¹⁸ Alberta Department of Energy (2006), **Alberta Oil Sands Tenure Guidelines - Principles and Procedures, June 15, 2006**. [Internet]. Government of Alberta, Canada. Available from: <<http://www.energy.gov.ab.ca>> [Accessed December 15, 2006] at 3-2.

¹⁹ Alberta Department of Energy (2006), **Alberta Oil Sands Tenure Guidelines - Principles and Procedures, June 15, 2006**, [Internet]. Government of Alberta, Canada. Available from: <<http://www.energy.gov.ab.ca>> [Accessed December 15, 2006].at 3-3.

included in an agreement, and appropriate seismic data must be obtained for the remaining sections.

Wells drilled to evaluate petroleum and natural gas agreements in the location covered by an oil sands agreement may be used to satisfy these evaluation criteria.

Continued leases are classified as either producing or non-producing. A producing lease is a lease in which “oil sands are, in the opinion of the Minister, being produced from a zone or zones in the location of the lease.”²⁰ Non-producing continued leases are subject to payment of escalating rents pursuant to section 16 of the *Oil Sands Tenure Regulation*. Escalating rental payments may be reduced by exploration costs, development costs and by the lessee upgrading bitumen or crude bitumen derived from the oil sands.²¹ It is not open to a lessee to designate part of a continued lease as producing and part as non-producing as production requirements apply to a lease as a whole. At present, minimum production required is 40 barrels of bitumen per section per day, on average, over the lease term.²² Minimum production requirements apply equally to all oil sands leases, regardless of method of recovery (mining or *in situ*).

²⁰ *Oil Sands Tenure Regulation* [Alta.Reg. 50/2000] s. 1(q).

²¹ *Oil Sands Tenure Regulation* [Alta.Reg. 50/2000] ss.18-20.

²² Alberta Department of Energy (2006), **Alberta Oil Sands Tenure Guidelines - Principles and Procedures, June 15, 2006**, [Internet]. Government of Alberta, Canada. Available from: <<http://www.energy.gov.ab.ca>> [Accessed December 15, 2006].at 5-2.

Annual rental payments must be made on all oil sands agreements. Rent of \$7.41 per acre, or a minimum of \$43, must be paid on or before the anniversary date of the agreement to avoid default.²³

Tenure may be terminated by the Minister of Energy if agreement provisions have been breached or if an agreement holder has neglected to respond to notices or neglected to comply with the *Mines and Minerals Act* or its regulations.²⁴

[3] Comparison to Alberta's Petroleum and Natural Gas Tenure Regime.

Similar to oil sands rights owned by the Crown, petroleum and natural gas ("PNG") rights owned by the Crown are offered for bidding every two weeks in a competitive bidding system. PNG rights are issued in the form of a licence or lease, whereas oil sands rights are issued as a lease or a permit. By way of comparison, approximately 9000 new PNG agreements are issued each year, compared to roughly 220 oil sands agreements. As of September 30, 2006, Alberta Energy administered 98,627 PNG and 3,244 oil sands agreements.²⁵

²³ Alberta Department of Energy (2006), **Alberta Oil Sands Tenure Guidelines - Principles and Procedures, June 15, 2006**, [Internet]. Government of Alberta, Canada. Available from: < <http://www.energy.gov.ab.ca> > [Accessed December 15, 2006].at 3-4.

²⁴ R.S.A. 2000, c. M-17 s. 45.

²⁵ Alberta Department of Energy (2006) **Facts on Oil Sands Tenure** [Internet], Government of Alberta, Canada. Available from: < <http://www.energy.gov.ab.ca> > [Accessed December 14, 2006].

By virtue of the vast majority of oil sands leases being for Crown lands, oil sands lessees avoid the requirement to negotiate access approval and surface leases with private landowners. On publicly owned Crown land, a mineral surface lease is needed from the Department of Sustainable Resource Development for both PNG and oil sands development.²⁶

[4] Legislation.

Legislation applicable to oil sands tenure includes:

[Mines & Minerals Act](#) [R.S.A. 2000, c. M-17]

This statute governs the management and disposition of rights in Crown owned mines and minerals, including the levying and collecting of bonuses, rental and royalties. (Administration of portions of this Act is shared by Alberta Energy with the Department of Sustainable Resource Development Department)

[Oil Sands Conservation Act](#) [R.S.A. 2000, c. O-7]

This statute establishes a regulatory regime and scheme of approvals administered by the primary provincial regulatory body, the Alberta Energy and Utilities Board

²⁶ Alberta Department of Energy (2006), **Alberta Oil Sands Tenure Guidelines - Principles and Procedures, June 15, 2006**, [Internet]. Government of Alberta, Canada. Available from: <
<http://www.energy.gov.ab.ca>> [Accessed December 15, 2006].at 2-3.

(AEUB), for the development of oil sands resources and related facilities in Alberta.

Mineral Titles Redemption Act

This piece of legislation provides for the return of freehold minerals rights vested in the Province through tax forfeiture prior to 1958.²⁷

[6] The Gas Over Bitumen Issue.²⁸

A significant number of oil sands leases containing bitumen located too deep to be mined are associated with large volumes of natural gas sitting above the oil sands deposits. Issues have arisen between owners of the rights to the oil sands and companies with rights to produce the natural gas. The so-called "gas over bitumen" issue has been, and continues to be, a concern for players in both areas of the Alberta energy sector and is a question that needs to be understood by

²⁷ In addition to the legislation referred to above, information on oil sands tenure can be found in the Alberta Oil Sands Tenure Guidelines and in Alberta Energy Information Letters 2006-12 (Electronic Bidding and Posting of Rights for the Public Offering of Oil Sands and PNG Rights) and 2006-16 (Issuance of Electronic Documents for PNG and Oil Sands Agreements effective with the June 28, 2006 Crown Public Offering and for Direct Purchase Agreements)

²⁸ In this section I have relied on the paper authored by my partner A.L. McLarty Q.C. and G.V. Lepine entitled "The Gas/Bitumen Dispute: The Clash of Fact, Technology, Policy and Law" (2004) Alta. L. Rev. 113.

parties intending to invest in oil sands projects that will require the use of *in situ* processes to recover the bitumen.

This issue has both legal and factual origins. Over a period of time, the Alberta government changed the manner in which it treated natural gas and bitumen within a common zone for lease tenure purposes. Historically both had been considered to be a single resource, however, in the late 1970s and early 1980s the government, through a series of legislative amendments and regulatory directives (and the support of the gas producers), created a system of "split title" to natural gas and bitumen found within the same zone.

By the late 1990s the conflict referred to above had come to the fore, primarily as a result of technological advances in the development of the SAGD process for producing bitumen *in situ*. The recognition that SAGD was a commercially viable technology meant that companies with deep oil sands rights beneath overlying gas caps were concerned that the recovery efficiency of the SAGD process could be compromised (and the viability of the projects impacted) if the overlying gas was produced first. These concerns led to a public inquiry by the AEUB during which the technical, legal and regulatory issues were raised and debated.

The report that followed the inquiry²⁹ led to a directive from the AEUB establishing criteria for the approval of gas production in oil sands areas. An applicant was required to establish either that the gas to be produced was not associated with bitumen within the region of influence, or if the gas was so associated, why production of that gas should be allowed considering the potential effect on future bitumen recovery.³⁰ These requirements were subsequently reflected in amendments to regulations issued under the *Oil and Gas Conservation Act* and the *Oil Sands Conservation Act*.

Shortly thereafter, Gulf Canada Resources Limited applied to the AEUB and asked the Board to order the shut-in of associated gas production from certain formations that lay over its Surmont oil sands leases and within a three section buffer area surrounding those leases. After a lengthy review of the application and a public hearing the Board concluded that continued production of the associated gas presented a "significant risk to future recovery from the Gulf Surmont oil sands leases" and ordered the shut-in of 146 of the 183 gas wells identified by Gulf. In reaching its decision the Board noted that the bitumen resources on Gulf's leases could result in production of 5.25 to 7.5 billion barrels of bitumen whereas the estimates of remaining recoverable gas reserves from the area subject to Gulf's shut-in request were, on an energy basis, 17 million to 32 million barrels of oil equivalent (less than one-half of one percent of the estimated

²⁹ Alberta Energy and Utilities Board Inquiry Report, Gas/Bitumen Production in Oil Sands Areas, March 1998

³⁰ Alberta Energy and Utilities Board Interim Directive ID 99-1, February 3, 1999 (as amended)

bitumen production). The Board stated that it would not be in the public interest to accept the possibility of "sterilizing" a vast bitumen resource by allowing continued gas production.³¹

The Board rejected the suggestion that the bitumen owners should compensate the gas producers by purchasing their gas rights but did recognize that the shut-in order would result in significant financial impacts to the producers. It also noted that the oil sands legislation allowed the Lieutenant Governor in Council (the Provincial Cabinet) to direct the Board to proceed to prepare a scheme to compensate persons who were injured or suffered a loss by reason of any orders made by the Board.³² Subsequent suggestions that the compensation should come from the bitumen owners was opposed by some of them on the basis that gas cap production from conventional oil pools had historically been precluded without payment of any compensation by the owners of the oil.³³ The Lieutenant Governor in Council picked up on the Board's inference and directed the AEUB to set up a compensation scheme to be funded by those whom the Board determined should pay (excluding the Crown). This Order in Council was challenged by the bitumen owners and was struck down by the Alberta Court of Queen's Bench as *ultra vires*.³⁴ No further attempts were made by the government to order compensation, however, a compensation agreement was eventually

³¹ Alberta Energy and Utilities Board Decision 2000-22, March 2000, at pp. v and vii

³² *id.*

³³ *supra* note 28 at p. 134.

³⁴ *Gulf Canada Resources Ltd. v. Alberta* (2002), 285 A.R. 290

reached among the Crown, Gulf (then ConocoPhillips Canada) and the Surmont gas producers. The agreement allowed the gas producers to recover almost two-thirds of the value of the shut-in gas from the Crown and the bitumen producer. The Crown's share was paid by way of a royalty credit against other oil sands gas production and the bitumen producer's share was paid via an advance from the Crown in the way of a royalty credit, with recovery coming from increased future bitumen royalties after payout of the project. The total value of the settlement is estimated to be \$85 million.³⁵

The AEUB continues to address gas over bitumen situations from the perspective that producing the gas may present an unacceptable risk to SAGD bitumen recovery. McLarty and Lepine opine that the Board's assessment of the issue gives only cursory treatment to other issues, such as the development of techniques to mitigate the risk (e.g. the potential for low pressure SAGD operations, artificial lift and repressuring) and economics and the possibility that significant amounts of bitumen, for which protection is being provided, may never be produced using SAGD or at all.³⁶ They conclude that the approach taken by the Board has focused exclusively on geological interpretation as the "touchstone to answer the one question it considers to be significant: whether the gas under consideration is "associated" with bitumen".³⁷

³⁵ *supra* note 28 at p. 135.

³⁶ *supra* note 28 at 143.

³⁷ *supra* note 28 at 144.

The authors express the view that the greatest potential for resolution of this issue lies with future technological developments and that this appears to now be recognized by bitumen producers, gas producers and the government. It has been reflected in a collaborative steering committee established to develop methods to allow for the production of gas without causing significant risk to future bitumen recovery.³⁸

The AEUB has, to date, not sought to recommend to the government that it legislate a solution to gas over bitumen issue and has preferred to stay with the regulatory approach to the problem. McLarty and Lepine look forward as follows:

Overall, it should be expected that in the near future, at least, the AEUB's decisions will continue to be primarily based on the view that bitumen resources in the area are large, representing Alberta's energy future and, on that basis, that they warrant protection. In the absence not only of reliable but of definitive information that producing gas will not create a risk to future bitumen recovery, the AEUB will continue to ensure that gas production does not materially compromise future potential bitumen recovery.³⁹

³⁸ *supra* note 28 at 148.

³⁹ *supra* note 28 at 150.

§ 1.03. Oil Sands Royalty Regime

Despite holding direct ownership of oil sands projects in the distant past, the Alberta government has not directly owned, operated or participated in oil sands projects for a considerable length of time. This is despite the fact that the provincial Crown still retains title to the vast majority of oil sands resources. Instead of direct participation, the Crown operates under a royalty system, whereby it leases the rights to produce oil sands to private entities, and collects rent from the production of the resource. This rental system is commonly known as the Alberta Oil Sands Royalty Regime and is designed to maximize and capture a fair share of the value of mineral and energy resources for the benefit of Albertans.⁴⁰

[1] Historical Overview of the Royalty Regime.

The impetus for the regime originated from a desire by the Alberta government to spur investment in, and development of, the oil sands resource. While some small-scale operations had been undertaken in the past, the 1960s saw the launch of the first large scale commercial oil sands project, the Great Canadian Oil Sands plant, owned by a consortium of companies who later became oil sands giant Suncor.⁴¹ In these early days, oil sands technology and engineering were in their

⁴⁰ Alberta Department of Energy (2006) *Alberta Oilsands Royalty Guidelines* [Internet]

Government of Alberta, Canada. Available from:

<http://www.energy.gov.ab.ca/docs/oilsands/pdfs/GDE_osr_chp1.pdf> at page 1-1. [Accessed December 14, 2006].

⁴¹ Suncor (2006) *About Suncor – History* [Internet]. Available from:

infancy and companies were only beginning to understand the complex extraction and processing required to turn oil sands into a marketable product. As commercial development of the oil sands was a risky new venture, the Alberta government encouraged continued private investment by adopting a royalty regime whereby the Crown carried some of the inherent risks by imposing only a minimal royalty until the projects began to show a profit. As more projects came online, the Crown negotiated individual royalty agreements for each successive project, with minimum royalty rates on gross revenue of up to 5 percent and royalties on net revenue ranging from 25 percent to 50 percent.⁴²

This project-by-project royalty approach allowed significant project-specific flexibility, and was manageable in light of the relatively few oil sands projects in the formative years of the industry. However, this individualised approach outgrew its utility as years of particularized royalty arrangements resulted in an inconsistent system wherein potential investors lacked a transparent and predictable royalty structure on which to evaluate investment plans and existing oil sands companies were unsure about the type of royalty structure new investments or expansions might be confronted with.⁴³ Eventually, a more

<<http://www.suncor.com/default.aspx?ID=9>>. [Accessed December 12, 2006].

⁴² *supra* note 35 at page 1-1

⁴³ Alberta Department of Energy - Royalty and Tenure Branch, Policy Division (1996) *Alberta's New Oil Sands Royalty System* by Richard Masson and Bryan Remillard, [Internet], Government of Alberta, Canada. Available from:

<http://www.energy.gov.ab.ca/docs/oilsands/pdfs/PUB_netsan.pdf> [Accessed December 9, 2006].

comprehensive and consistent approach to the collection of royalties was needed to handle the increased investment and development interest in the resource driven by technological advancement and stronger world oil prices.

The Alberta Chamber of Resources constituted the steering committee for the establishment of the National Task Force on Oil Sands Strategies in 1993; comprising representatives from the oil sands industry and the Alberta and federal governments. In 1995, the Task Force produced a comprehensive list of strategic recommendations; chief among them was the development of a generic oil sands royalty system founded in statute and based on a specified percentage of net project revenues after cost recovery.⁴⁴ Such a system was already present in a number of the pre-existing individualized royalty arrangements and provided the experience base from which to create the new generic system.⁴⁵ Such a generic regime was intended to create fiscal certainty and stability, thereby encouraging additional private investment, as the same rules would apply in similar situations and each new project would operate under the same standardized royalty provisions.

⁴⁴ Alberta Department of Energy (1997) *Alberta's Oil Sands: Update on the Generic Royalty Regime* by Robert Mitchell *et al.*, [Internet], Government of Alberta, Canada. Available from: <<http://www.energy.gov.ab.ca/1911.asp#introduction>> [Accessed December 15, 2006].

⁴⁵ *id.*

[2] General Description of Alberta's Generic Oil Sands Royalty Regime.

In response to industry demand and acting upon the Task Force's advice, the Government of Alberta undertook the task of developing a neutral legislative framework to collect its share of oil sands revenues. Alberta's current generic regime was established by regulation on July 1, 1997.⁴⁶ Much like the proposed regime, the governing royalty system may be described as 'generic' as all projects approved under the regime are subject to the same set of royalty terms without exception.⁴⁷ The general calculation principle underlying the regime is 'revenue minus cost'.

The amount or calculation of a royalty paid to the Crown is dependant on which of two categories an oil sands project falls under; the determining factor is the project's progress relative to its "pay out date". The "project payout date" is defined generally to be either the first day of the month during which the cumulative revenue of an approved project first equals the cumulative cost of the project or the effective date (as specified in the project's proposal to the Minister) in the case of a project for which the prior net cumulative balance as of the day preceding the effective date is negative.⁴⁸

Before an oil sands project reaches payout, and therefore before it begins to show a profit, the project is subject to a one percent royalty payable on its monthly

⁴⁶ *Oil Sands Royalty Regulation, 1997* (Alta. Reg. 185/97)

⁴⁷ *supra* note 40 at 1-1

⁴⁸ *Oil Sands Royalty Regulation, 1997* (Alta. Reg. 185/97) s. 1(dd).

gross revenue as required by the *Mines and Minerals Act*.⁴⁹ This reduced pre-payout royalty amount is intended to reduce undue stress on the owner's finances during the most critical and capital intensive start up phase, as well as recognize the risks and long wait for investment return typical of major oil sands projects.⁵⁰

After an oil sands project reaches payout, and therefore after it begins to return a profit, the royalty rate increases significantly. After payout, and including a return allowance equal to the Canadian Long-Term Bond Rate, the project is subject to Crown royalties of the greater of one percent of the project's gross revenue or 25 percent of its net revenue as calculated with the following formula:

$$\text{Crown's royalty share of the oil sands product} = [25 \times \text{Net Revenue of the project}] / [\text{Gross Revenue of the project}].⁵¹$$

The theory behind the delayed increase in royalty rates until the post-payout period is that such an approach allows an owner to realize a profit more quickly and encourages owners to maximize operational efficiency.⁵²

The return allowance, set at the Canadian Long Term Bond Rate, is key to the generic regime because it is a significant factor in determining when a project reaches payout. Owners will likely not invest in any project if they do not expect to earn back at least their risk-adjusted cost of capital. Due to the risks of oil sands

⁴⁹ *Mines and Minerals Act* R.S.A. 2000, c. M-17, s.90(2).

⁵⁰ *supra* n. 40 at 1-2.

⁵¹ *Mines and Minerals Act*, R.S.A. 2000, c. M-17, s.90(3).

⁵² *supra* n. 40 at 1-3.

development, an investor may wait a considerable period before achieving this earning objective – potentially six to eight years. If the return allowance was set at the owner's risk-adjusted cost of capital, which would be substantially higher than the bond rate, projects could take a long time to reach payout, and therefore delay the date the Crown can start to collect its much larger post-payout royalties.⁵³

[3] Components of Alberta's Oil Sands Royalty Regime.

Alberta's oil sands royalty regime is divided among three constituent parts. The policies, guidelines and business rules that interpret and administer the regime are issued by Alberta Energy, though industry representatives do have input into the rules. Specifically, these guidelines interpret the legislation, particularly the regulations, and describe the principles and procedures involved in approving, reporting, and paying oil sands projects and royalties.⁵⁴ These rules tend to be advisory in nature, and are usually not considered to have the same binding effect as legislation.

The second part of the system is the *Oil Sands Royalty Regulation, 1997*.⁵⁵ This regulation is largely the instrument establishing the administrative framework of

⁵³ *supra* n. 44.

⁵⁴ Alberta Department of Energy (2006) *Oil Sands Information Bulletin 2006-07* [Internet], Government of Alberta, Canada. Available from:
<http://www.energy.gov.ab.ca/docs/oilsands/pdfs/IB_2006_07.pdf> [Accessed: December 10, 2006].

⁵⁵ *supra* n. 40.

the regime. Part 2 of the Regulation deals generally with the approval of oil sands projects by the Minister of Energy. Specifically, section 16 requires that a project approval, or approval of an amendment to a project, must specify, *inter alia*, such details as a description of the project, the effective date of the project, the initial operator and whether the project is a joint venture. Section 17 effectively requires the prior approval of the Alberta Energy and Utilities Board as well as a description of the area and strata targeted for recovery and the facilities involved in the project before approval can be given. Parts 4 and 5 of the *Regulation* relate to revenues and allowed costs relevant to royalty calculations and specific cost allocation rules respectively.

The *Mines and Minerals Act* was amended in conjunction with the coming into force of the *Oil Sands Royalty Regulation, 1997* to embed the oil sands royalty calculation formulae and core rates into the new legislation-based royalty scheme. Part 1 (sections 33-39 of the *Act*) deals with treatment and payment of Crown royalties in general, not confined to the administration of oil sands royalties in particular. Part 5, sections 87-90 of the *Act* relate solely to oil sands leases and the calculation of royalties. Section 87 dictates that after January 1, 2000, solution gas (gas that is dissolved in crude bitumen under initial reservoir conditions) is deemed to have been included in a grant of oil sands rights and section 90 outlines the calculation of royalties and the allowed return allowance as discussed in detail above.

[4] Alternative Royalty Regimes.

Project proponents who do not apply for approval pursuant to the Regulation, and therefore do not come within the scope of the generic regime, must pay royalties under a number of alternative regimes. For projects not operating within either the generic regime or the specific Crown Royalty Agreements as discussed below, the *Oil Sands Regulation, 1984* applies. This regulation is applicable to revenue from oil sands recovered on or after May, 1984 and dictates that the Crown royalty on oil sands is the same royalty that would be reserved to the Crown under the *Petroleum Royalty Regulation*⁵⁶ if the oil sands were crude oil.⁵⁷ Under the *Petroleum Royalty Regulation*, royalties are calculated according to which category incoming oil is placed. The categories are a complicated combination of old or new oil, heavy or non-heavy oil, and third-tier oil; and the royalty calculation will depend upon the combination of these three categories applied to the specific incoming oil sands.

The other alternative royalty mechanisms are found in the individual royalty agreements pre-dating the creation of the generic regime as authorized and preserved by the *Mines and Minerals Act*.⁵⁸ These arrangements were negotiated by each developer to deal with what it saw as the needs and risks present in each project. While many of these unique regimes remain in effect today, the Crown will not negotiate or enter into any additional individualized agreements,

⁵⁶ *Petroleum Royalty Regulation* (Alta. Reg. 248/90)

⁵⁷ *Oil Sands Regulation, 1984* (Alta. Reg. 166/84)

⁵⁸ R.S.A. 2000, c. M-17, s.23(2)

preferring instead to funnel new projects or expansions into the generic regime. An example of the previous patchwork system of royalty arrangements can be found in the royalty terms applicable to commercial *in situ* projects prior to the establishment of the new generic regime. Typically, these royalty terms were based on the terms provided to Imperial Oil's Cold Lake project, and consisted of a one percent royalty on gross revenue at startup, increasing by one percent every eighteen months to a maximum of 5 percent. The royalty then remains at 5 percent of gross production until payout (when gross revenue exceeds cumulative operating costs, capital costs, gross royalty, and a 10 percent return allowance on unrecovered costs), at which point it converts to the greater of 30 percent of net revenues or 5 percent of gross production.⁵⁹ Such terms are considerably different from the one percent before payout and the greater of one percent of gross revenue or 25 percent of net revenue charge if such projects were under the generic regime.

[5] Applying Under the Generic Regime.

By default, oil sands royalties are payable under the *Oil Sands Royalty Regulation, 1984* and so new project proponents not coming within the scope of a pre-existing negotiated royalty arrangement must apply for approval under the generic regime. The process is the same for approval of amendments to existing projects already under the generic system.

⁵⁹ *supra* note 43.

The first step in coming within the scope of the new system is to gain the approval of the Alberta Energy and Utilities Board. Section 10 of the *Oil Sands Conservation Act* prohibits construction or operation of a scheme or project for the recovery of oil sands or crude bitumen, unless the Board, on application, has granted its approval.⁶⁰ After receiving Board approval, the proponents must then seek ministerial approval for generic royalty terms. The *Oil Sands Royalty Regulation, 1997* defines "project" as:

...a scheme or operation for the recovery within Alberta of crude bitumen or any other oil sands product from oil sands, whether or not in conjunction with the further processing of the crude bitumen or other oil sands product, where the scheme or operation is approved in one or more subsisting approvals under section 16.⁶¹

Section 15 of the Regulation provides the mechanism for which oil sands lessees may apply to the Minister for generic royalty approval of the proposed project and section 16 requires that a project approval must specify such details as a project description, the effective date of the project, and the project's initial operator amongst other details. Section 17 of the Regulation requires a description of the area and strata targeted as well as the project's facilities and finances before approval can be given. Approval is evidenced by a Ministerial Order signed by an

⁶⁰ *Oil Sands Conservation Act*, R.S.A. 2000, c. O-7.

⁶¹ Alta. Reg. 185/97 s.1 (aa).

authorized delegate of the Minister of Energy and provides the legal approval for the generic royalty aspects of the project.⁶²

As of September, 2006, 33 of the 65 oil sands projects under the generic regime were in post-payout and were paying the 25 percent royalty.⁶³

[6] Criticism of the Royalty Regime

Notwithstanding record revenues from oil sands royalties year after year, there has been a great deal of criticism levelled at the existing royalty regime. In a recent report published by The Pembina Institute, a not-for-profit environmental policy research and education organization, it was argued that the royalty regime implemented in 1997 has led to the royalties on a barrel of bitumen declining by 32 percent from \$2.92 per barrel in 1997 to \$1.97 in 2005.⁶⁴ Significant cost overruns associated with many of the projects are leading to many projects remaining at the one percent royalty rate for extended periods of time and,

⁶² Alberta Department of Energy (2006) *Alberta Oilsands Royalty Guidelines* [Internet]

Government of Alberta, Canada. Available from:

<http://www.energy.gov.ab.ca/docs/oilsands/pdfs/GDE_osr_chp1.pdf> at page 1-1. [Accessed December 14, 2006].

⁶³ Canadian Association of Petroleum Producers presentation "Oil Sands Consultation: Economic Impacts and Benefits of Alberta's Oil Sands", September 26, 2006,

<http://www.capp.ca/raw.asp?x=1&dt=PDF&dn=109360> [Accessed December 10, 2006]

⁶⁴ Amy Taylor and Marlo Reynolds, "Thinking Like an Owner: Overhauling the Royalty and Tax Treatment of Alberta's Oil Sands", The Pembina Institute, November, 2006 at page 16.

according to the authors, resulting in Albertans waiting longer to be compensated and receiving less total compensation.⁶⁵

The report advocates an increase in royalty rates to levels determined through a comprehensive and public review of current rates. These rates should, in the view of the authors, "be set to ensure maximum compensation to the citizens of Alberta - the owners of the oil sands resource" and "should avoid leaving excess profits with corporations".⁶⁶ The report asks the government to suspend all tenure allocations in the oil sands areas and asks the AEUB and Alberta Environment (the provincial department of the environment) to delay any new project approvals until a review of the royalty regime has been completed and the royalty rates increased.⁶⁷

To date, the oil sands industry has not specifically responded to the Pembina Institute's report but it has been actively lobbying the government and has been busy presenting its case to the public on the benefits of continued oil sands investment.

It is hopefully apparent from the foregoing discussion that the increased certainty that has resulted from the government's transition from a project-by-project royalty system to a generic regime has been accompanied by an increasing level of complexity for project operators to deal with. Interpretation of the regulations, guidelines and policies in order to calculate royalties and determine when, and on

⁶⁵ *Ibid.* at page 18.

⁶⁶ *Ibid.* at page 23.

⁶⁷ *Ibid.* at page 24.

what aspects of a project, they are payable is, with all due respect to royalty accountants, not the most interesting aspect of oil sands royalties. As will be discussed below, the potential use by the Government of Alberta of the oil sands royalty regime for economic and political purposes will likely ensure that this aspect of the business receives more attention in the coming years.

§1.03 Current Issues in the Oil Sands Industry

With the enormous investment taking place and being planned for the oil sands in the near future, it is no surprise that developments, advances and obstacles constantly arise for industry participants. Significant business challenges have been a feature of the industry since well before its first commercial operation in the late 1960s, and show no signs of dissipating. In addition to the obvious factor of the future price of oil, other commercial issues and stresses brought about by an unprecedented economic boom in Alberta are important to any investment decision relating to oil sands development. Infrastructure questions are also highly relevant as massive investment in upgrading facilities and pipelines is necessary in order to get the increased bitumen and synthetic crude oil to refineries and markets. Supplies of natural gas are an important concern as is the question of whether burning a clean fuel to make a "dirty" fuel is in the public interest. The potential benefits of technological advances that could ameliorate these concerns will become important in the years to come. Environmental issues relating to global warming and water quantity and quality are being assessed by project proponents, regulators, governments and investors.

The remainder of this paper is devoted to highlighting just some of these thought-provoking questions, each of which could form the basis of its own paper.

[1] "Think I'll Go Out to Alberta, Weather's Good There in the Fall"⁶⁸

Due to the incredible success of the oil sands and Alberta's economy in general, Alberta is already suffering from a shortage in the number of both skilled and unskilled workers. It is expected that nearly 400,000 jobs will be created in Alberta over the next 10 years, but only 300,000 new workers are expected to enter the labour market, leaving a deficit of as high as 100,000 workers.⁶⁹ The labour crunch is already being felt by both oil sands companies as well as service companies⁷⁰ and by 2009, it is estimated that 35,000 construction personnel will be required for the major industrial projects alone.

In response to the growing labour shortfall, the Alberta government has instituted a number of short-term strategies, but has also prepared a 10-year draft strategy aimed at achieving three key outcomes: an improved supply of appropriately skilled and motivated workers in the province; highly skilled, educated and innovative people; and high performance work environments that can make

⁶⁸ ...I got some friends that I could go to working for. "Four Strong Winds" © Ian Tyson

⁶⁹ Government of Alberta (2006) *Proposed strategy addresses skill and labour shortages*

[Internet], Government of Alberta, Canada. Available from:

<<http://www.gov.ab.ca/home/index.cfm?Page=1320>> [Accessed: December 13, 2006].

⁷⁰ See for instance: CBC News "Oilsands expansions underscore labour shortage" November 7, 2005 [Internet]. Available from:

<<http://www.cbc.ca/canada/calgary/story/2005/11/07/ca-oilsand-cnr20051107.html>> [Accessed: December 7, 2006].

maximum use of innovation and technology.⁷¹ One part of the government's solution is to increase the pool of skilled labour through increasing the participation of under-represented groups in Alberta's labour force, interprovincial migration, and immigration.⁷² A second significant component to addressing the labour shortage is to provide appropriate education to make newly found workers suitable for the tasks required. The Alberta government, in conjunction with its federal counterpart, is moving to make such education available.⁷³ Programs such as accelerated and dedicated trade certification (i.e. trade apprenticeship) are being deployed to ensure that the labour shortage does not constrain the rate of economic growth or oil sands expansion.⁷⁴

As the immigration process comes under the jurisdiction of the Canadian government, any initiative to increase the foreign workforce must receive federal co-operation. In a recent speech, Monte Solberg, the then federal Minister of Citizenship and Immigration recognised "the shortage of skilled workers in our country is one of the most important challenges we face in ensuring our economy

⁷¹ Alberta Human Resources and Employment (2006) *Building and Educating Tomorrow's Workforce at 5* [Internet], Government of Alberta, Canada. Available from: <http://www.hre.gov.ab.ca/documents/WIA/WIA-BETW_strategy.pdf> [Accessed December 10, 2006].

⁷² *ibid* at 14.

⁷³ *supra* n. 66 at 16.

⁷⁴ Alberta Chamber of Resources (2005) *Looming Labour Shortages Challenge Alberta Resource Industries* by Robert Simpson [Internet]. Available from: <http://www.acr-alberta.com/features/Looming_labour_shortages.pdf> [Accessed December 10, 2006].

and workforce remain competitive and responsive to emerging global trends".⁷⁵

To that end, the federal Government has instituted a number of programs to attract skilled foreign labour to meet Alberta's, and indeed Canada's, labour shortfall.

The federal government's Foreign Worker Program (FWP) is one option available to all employers. It allows temporary foreign workers to enter Canada if employers can demonstrate they cannot find Canadian workers to fill job openings. In most instances, employers are responsible for recruiting temporary foreign workers, and ensuring the workers obtain the necessary working permit and clearances; this process to approve a temporary foreign worker application may take several months.⁷⁶ The Provincial Nominee Program (PNP) is another example of federal-provincial labour co-operation as it allows individual provinces to tailor immigration to their own specific needs. The first step of the Alberta PNP process requires that the employer apply to the Program for an occupation based on the skill level required for the position to be filled. If the employer and occupation are approved, the second step of the process requires the employer to nominate a candidate to whom it has offered a permanent full-time

⁷⁵ Monte Solberg, Minister of Citizenship and Immigration, (Notes for an address by the Honourable Monte Solberg, Minister of Citizenship and Immigration), National Symposium of the Canadian Employee Relocation Council Toronto, Ontario (June 15, 2006) [Internet], Citizenship and Immigration Canada. Available from:

<<http://www.cic.gc.ca/english/press/speech-2006/cerc.html>> [Accessed: December 11, 2006].

⁷⁶ Service Canada (2006) *Hiring Temporary Foreign Workers in Alberta* [Internet], Government of Canada. Available from:

<<http://www1.servicecanada.gc.ca/asp/gateway.asp?hr=en/ab-nwt-nu/fwp/fw.shtml&hs=ab0>> [Accessed December 10, 2006].

position and who has the relevant education, training and experience required for the occupation.⁷⁷ With the employer's application and subsequent approval, the successful employee candidates may then be nominated by the Alberta PNP to Citizenship and Immigration Canada for expedited permanent residency processing.⁷⁸

The labour shortage isn't the only challenge facing the oil sands industry. The extreme rate of growth has also resulted in enormous pressure on Alberta's infrastructure, particularly in the Regional Municipality of Wood Buffalo, which includes the city of Fort McMurray, the local base for most oil sands operations. The 2006 census results reveal a total population of 79,810 representing an increase of 9.1 percent in just one year.⁷⁹

A massive expansion of oil sands investment over the past ten-year period has resulted in a population increase of 86 percent from 1996 to 2006. When the addition of the shadow population is taken into consideration, the population

⁷⁷ Alberta Economic Development (2006) *Provincial Nominee Program* [Internet], Government of Alberta, Canada. Available from:

<<http://www.alberta-canada.com/pnp/>> [Accessed: December 11, 2006].

⁷⁸ Alberta Economic Development (2006) *How to apply to the Alberta Provincial Nominee Program* [Internet], Government of Alberta, Canada. Available from:

<<http://www.alberta-canada.com/pnp/howToApply.cfm>> [Accessed: December 10, 2006].

⁷⁹ Regional Municipality of Wood Buffalo (2005) *Demographics - Municipal Census* [Internet], Regional Municipality of Wood Buffalo, Alberta, Canada. Available from:

<<http://www.woodbuffalo.ab.ca/business/demographics/demographics.asp>> [Accessed December 11, 2006].

growth from 1996 to 2006 is 114 percent.⁸⁰ Conservative forecasts indicate that Fort McMurray will reach a population of 100,000 by 2012.⁸¹

In her 2005 State of the Region Address, Mayor Melissa Blake identified a \$355 million gap between the funding needs of the Regional Municipality of Wood Buffalo and its available finances for 2005/2006 alone.⁸² The funding shortfalls and inability to keep pace with the needs arising from industrial growth have prompted Mayor Blake to ask for assistance from higher levels of government. In her testimony before the AEUB proceeding considering the 2006 application by Suncor to expand its North Steepbank Mine and Voyageur upgrading facility, Mayor Blake specifically cited her region's inability to keep up with growth and its growing public service capacity deficit, land shortfalls, housing disadvantages and difficulty providing a high quality of life for residents.⁸³ The theme of her

⁸⁰ Regional Municipality of Wood Buffalo (2006) *2006 Municipal Census* [Internet] at 10, Regional Municipality of Wood Buffalo, Alberta, Canada. Available from: <http://www.woodbuffalo.ab.ca/business/demographics/pdf/2006_census.pdf> [Accessed: December 12, 2006].

⁸¹ *ibid* at 16.

⁸² Melissa Blake, Mayor of Fort McMurray (Notes from the State of the Region Address) (May 16, 2005) [Internet] at 7, Fort McMurray Chamber of Commerce, Fort McMurray Alberta, Canada. Available from: >http://www.woodbuffalo.ab.ca/municipal_government/mayor+regional_council/Region_Presentation.pdf> [Accessed: December 8, 2006].

⁸³ *Suncor Energy Inc. Application for Expansion of an Oil Sands Mine (North Steepbank Mine Extension) and a Bitumen Upgrading Facility (Voyageur Upgrader) in the Fort McMurray Area* (2006), Alberta Energy and Utilities Board Decision 2006-112 (Hearing Transcripts at 1602).

testimony seemed to be an airing of grievances with the provincial government's failure to respond with appropriate assistance, despite the region's desperate pleas as she asked the Board to use its influence to essentially force the co-operation and assistance of the oil sands industry and Alberta government as a condition of future oil sands projects approval.⁸⁴ This testimony was significant in that it represented the first time that the regional government had not come out in support of an oil sands project or project expansion.

In its November 14, 2006 decision allowing Suncor's application subject to certain conditions, the Board recognised that the municipal government had asked it to "conduct a comprehensive inquiry into the socioeconomic issues of oil sands development. It further asked that the approval of the project be delayed until the results of the inquiry were available and needed infrastructure arrangements had been made."⁸⁵ The Board noted the municipality's position that approval of the project be conditioned such that construction be delayed until the municipality had time and funds to build infrastructure, upgrade existing facilities and reduce or eliminate the housing shortage.⁸⁶

⁸⁴ *ibid* at 1602-1621.

⁸⁵ Alberta Energy and Utilities Board Decision 2006-112 (2006) *Suncor Energy Inc. Application for Expansion of an Oil Sands Mine (North Steepbank Mine Extension) and a Bitumen Upgrading Facility (Voyageur Upgrader) in the Fort McMurray Area* [Internet] at 3, Alberta Energy and Utilities Board, Alberta, Canada. Available from:
<<http://www.eub.ca/docs/documents/decisions/2006/2006-112.pdf>> [Accessed: December 9, 2006].

⁸⁶ *ibid* at 9-10.

In response to the municipality's proposals, the Board agreed that without proper attention to these issues, the potential exists for public infrastructure and services to be significantly affected and noted that certain public infrastructure and services in the region are already operating at or above capacity.⁸⁷ However, the Board took no position as to the adequacy of the funding mechanisms in place, though it did state "government has the jurisdiction and the responsibility to ensure that the necessary public infrastructure is in place to accommodate growth...the time to take action is now."⁸⁸ In addition, while it did identify the presence of serious socioeconomic impacts on the region, the Board viewed these impacts "in light of mitigation efforts proposed by Suncor, the efforts by the [municipality]...to respond to the challenges they face, and the actions taken by the provincial and federal governments to help alleviate the impacts"⁸⁹, finally deciding that the impacts associated with Suncor's application can be managed.⁹⁰

Perhaps most importantly for future oil sands projects, the Board decided that it lacked the jurisdiction to force government and industry into a public inquiry into oil sands expansion and consequent impact on the surrounding region.⁹¹ In its concluding comments the Board offered the following observation:

⁸⁷ *supra* n. 80 at 10-11.

⁸⁸ *supra* n. 80 at 11.

⁸⁹ *supra* n. 80.

⁹⁰ *supra* n. 80 at 12.

⁹¹ *supra* n. 80 at 13.

The Board believes that additional infrastructure investment in the Wood Buffalo region is needed, and it believes that there is a short window of opportunity to make these investments in parallel with continued oil sands development.⁹²

The Board did recommend that all levels of government coordinate their actions to ensure that the municipality has the ability to service the anticipated level of sustained growth in the region and that the provincial government work with the local health region to address the lack of land, infrastructure and resources it is faced with in Fort McMurray.

The same issues were raised by the municipality and considered by the Board in two proceedings that followed the Suncor hearing. In its December 21, 2006 decision on the application of Albian Sands Energy Inc. for approval to expand its Muskeg River Mine to increase bitumen production from 150,000 bbls/day to 270,000 bbls/day, the Board approved the application and issued the same cautions to the governments.⁹³ The Board's decision into Imperial Oil's application for approval to construct its 300,000 bbls/day Kearl Lake Mine is pending.

⁹² *ibid.* at 70.

⁹³ Joint Panel Report, EUB Decision 2006-128.

[2] Technological Advances

With the vast volumes of natural gas devoured by oil sands operations daily, any technology that could reduce or eliminate the industry's dependence on gas has great potential. As such, many producers are working to develop new technologies either alone, or in conjunction with partners, to avoid the significant operating costs associated with gas and reduce their cost exposure to purchasing huge quantities of gas on an often volatile market.⁹⁴ It is estimated that the proposed new and expansion projects could take up the entire volume of Mackenzie Delta gas expected to be brought south from the Arctic if the Mackenzie Valley Pipeline project proceeds (1.2 bcf/d).

In addition to cost and supply issues, the use of natural gas in oil sands production has received a great deal of negative attention from environmental groups in Canada and abroad and from some political parties. It is estimated that oil sands production produces four times the greenhouse gas emissions as conventional oil production on a per barrel basis.

One such 'gas-alternative' technology, known as the "OrCrude process" is being developed and tested by OPTI Canada Inc. and is expected to significantly reduce the use and reliance on natural gas. Diluted bitumen is fed into the upgrading facility, which consists of a proprietary OrCrude unit, a gasifier and a hydrocracker. The OrCrude unit partially upgrades the bitumen, sending the

⁹⁴ "Oilsands Fever" *2006 Oil and Gas Forecast & Almanac* (March 2006) 40.

bitumen to the hydrocracker for final processing and sending the asphaltene residue by-product to the gasification unit. The gasification unit converts the asphaltene residue into synthetic gas used to produce steam for the massive SAGD and power generation operations and hydrogen.⁹⁵ The distinct advantage of this patented process is a significant reduction in the need to purchase natural gas to fire the power generation and SAGD operations and to produce hydrogen for the secondary upgrading process.⁹⁶ The first commercial application of the OrCrude process is in the Long Lake SAGD Project, a joint venture between OPTI Canada Inc. and Nexen Inc. currently under construction southeast of Fort McMurray.

Another technology expected to significantly reduce reliance on natural gas is Multiphase Superfine Atomized Residue (MSAR) developed by Quadris Canada Fuel Systems Inc. and currently being field tested at Deer Creek Energy's proposed 200,000 bbls/d Joslyn site. MSAR is a liquid fuel consisting of tiny oil droplets dissolved in a fine water mist and combined with specialized chemicals, which can be burned as an efficient energy for a broad range of industrial applications. MSAR is flexible in that it is able to be manufactured from a range of heavy hydrocarbons such as bitumen or asphaltene residue.⁹⁷ According to

⁹⁵ OPTI Canada Inc. (2006) *Presentations and Webcasts: Integrated OrCrude Process Animation* [Internet]. Available from: <<http://www.opticanada.com/investors/presentations/>> [Accessed December 12, 2006].

⁹⁶ *id.*

⁹⁷ Quadris Canada Fuel Systems Inc. (2004) *What is MSAR?* [Internet]. Available from: <<http://www.quadrisecanada.com/technical.html>> [Accessed December 7, 2006].

industry commentators, MSAR holds the promise of replacing a significant percentage of the natural gas burned in the various processes needed to produce bitumen from the oil sands, chiefly in the production of steam for SAGD operations.⁹⁸

Petrobank Energy and Resources Ltd. is currently constructing its Whitesands Project which will be the first large scale field application of Petrobank's patented toe-to-heel air injection (THAI) oil sands extraction method. The production process uses one vertical well to inject air into the reservoir which is then supplied with an ignition source to create a combustion front using part of the *in situ* resource as fuel. The combustion generates significant heat which reduces the viscosity of the oil, allowing it to flow by gravity to a horizontal production well. The combustion front sweeps the oil from the toe to the heel of the horizontal producing well and Petrobank reports enhanced recovery rates of up to 80 percent of the original oil-in-place while partially upgrading the crude oil *in situ*.⁹⁹ The THAI process is expected to carry significantly lower operating costs, require less

⁹⁸ Graham Chandler, "New Fuel for SAGD" *Nickle's New Technology Magazine* (September 2005) 2-3.

⁹⁹ Petrobank Energy and Resources Ltd. (2006) *What is the THAI technology?* [Internet]. Available from: <<http://www.petrobank.com/hea-thaitechnology.html>> [Accessed: December 15, 2006].

water, and emit lesser amounts of greenhouse gases than conventional recovery processes such as natural gas powered SAGD.¹⁰⁰

While far from becoming a near term reality, the possibility of employing nuclear power as an energy source for the oil sands has become a topic of hot debate. As recently as November 2006, Jim Dinning, at the time the favoured candidate to become Alberta's next Premier, suggested that nuclear energy should be considered, in conjunction with other emerging technologies, as a cure for the oil sands insatiable appetite for natural gas as the industry continues to grow.¹⁰¹ The man who ultimately won the leadership race and is now Alberta's new Premier, Ed Stelmach, has also agreed that nuclear power may provide at least a partial answer to the industry's dependence on natural gas.¹⁰² Proponents of a nuclear option for the oil sands have recruited some powerful allies; outgoing Alberta Premier Ralph Klein has been approached with the prospect of lobbying for the installation of nuclear power in the oil sands area after he leaves office.¹⁰³

¹⁰⁰ "Unconventional Boom - New Technologies Open Massive Resources Base to Development" *2006 Oil and Gas Forecast & Almanac* (March 2006) 76 at 78.

¹⁰¹ Jason Markusoff, "Dinning favours nuclear power for oilsands" *The Edmonton Journal* (8 November, 2006) [Internet]. Available from:
<<http://www.canada.com/edmontonjournal/news/story.html?id=c4b2b119-01aa-4e52-9565-f20942862630>> [Accessed: December 13, 2006].

¹⁰² *id.*

¹⁰³ Darcy Henton, "Ralph in nuke role?; Premier says he's been approached to work as a lobbyist" *The Edmonton Sun* (10 November, 2006) [Internet]. Available from:
<<http://www.uofaweb.ualberta.ca/govrel/news.cfm?story=52672>> [Accessed November 29, 2006].

Canadian oilpatch legend Hank Swartout, Chairman of the Board and CEO of Precision Drilling Trust, is a founder and Director of newly minted Energy Alberta Corp., a company created for the purpose of providing nuclear power to the energy-intensive development of the oil sands resources. Despite its recent creation, Energy Alberta has already signed a two-year exclusive deal with Atomic Energy of Canada Ltd. to market the advanced Candu 6 reactor and the concept of nuclear power to oil sands companies and hopes to build a reactor worth about \$3 billion by 2014 to provide steam to support the production of 220,000 bbls/d.¹⁰⁴ However, the future of nuclear development in the oil sands is anything from certain as significant opposition, largely focused on environmental issues and public safety, continues to contest the nuclear option.

[3] Exporting Bitumen and Synthetic Crude Oil from Canada

Export of oil and oil products is regulated through a system of licences that must be obtained from the National Energy Board. Because licences are typically short term, formal hearings are not often held. Except for licence terms in excess of two years for heavy crude (one year for light crude), licence grants are not subject to approval of the Governor in Council (the federal Cabinet). Rather, the Board

¹⁰⁴ Dave Ebner "Nuclear pitch for oil sands" *Globe and Mail.com* (17 August, 2006) [Internet].

Available from:

<<http://www.globeadvisor.com/servlet/ArticleNews/story/gam/20060817/REENERGY17>>

[Accessed: December 1, 2006].

issues non-restrictive licences for short-term oil export on an after the fact basis.¹⁰⁵

The Board routinely issues export orders, without volume limits for up to 24 months for heavy crude. Alternatively, heavy crude oil export licences of longer than 24 months, but not exceeding 25 years, may be authorized by the Board after a public hearing and subject to Cabinet approval. In addition, if applying for a long-term export licence, the applicant must inform and negotiate with Canadian buyers on the same basis as non-Canadian buyers who express interest.¹⁰⁶

There is currently no Alberta provincial regulation of the export of oil (unlike for natural gas or propane), however, the issue may arise in the very near future as to whether the province can use its fiscal jurisdiction over royalties to prevent the export of bitumen in order to force upgrading of the bitumen to occur in Alberta (see below).

[4] Upgrading and Processing in Alberta

Currently, there is no Alberta government policy that requires the refining of crude or heavy crude in Alberta. Whether such a policy should exist is an issue that arose in the context of the recent election of the new leader of the governing

¹⁰⁵ Constance D. Hunt et al., *Canada Energy Law Service*, Vol. 1, looseleaf (Toronto, Ont.: Thomson Carswell, 2005) at paras. 236-237.

¹⁰⁶ *ibid.* at paras. 238-238a.

Progressive Conservative Party. In a September 2006 campaign speech to the Edmonton Petroleum Club, then candidate Ed Stelmach said:¹⁰⁷

This is a massive responsibility that requires a trust between the people and their government to manage growth for long term creation of new opportunities for Albertans and their communities.

And we forfeit these opportunities when we allow the shipment of raw bitumen out of this province for upgrading and processing elsewhere.

I am raising this concern now, because several projects have been announced that will do exactly this. It is permissible and within the current royalty regime, but it flies in the face of the government's value added strategy.

Shipping raw bitumen is like scraping off the topsoil, selling it and thinking we have a rich farm because we have cash in the bank.

Once it's gone, it's gone for good. We have to do better to provide the right economic policy to ensure that the investment, spinoffs and jobs from oil sands development are created here in Alberta.

Since Ed Stelmach became Premier on December 15, 2006, the Alberta Government has not made any announcements about developing a policy to

¹⁰⁷ "Stelmach Raises Concern Over Oilsands Development and Funding to Municipalities", online, accessed Dec. 15, 06: Ed Stelmach <<http://www.stelmach.ca/news/showarticle.cfm?ItemId=285>>.

further encourage or require upgrading and processing in Alberta, however, it is widely considered that this issue will be considered as part of a review of the existing royalty regime.

Having said that, it is interesting to note that none of the front-running candidates, including the new Premier, reacted to the October 2006 announcement by EnCana Corporation and ConocoPhillips that they had entered into an agreement to create an integrated, North American heavy oil business consisting of major upstream and downstream assets. The venture will consist of two 50/50 operating partnerships, a Canadian upstream partnership consisting of EnCana's Foster Creek and Christina Lake oil sands projects, and a U.S. downstream partnership comprised of ConocoPhillips' Wood River and Borger refineries in Illinois and Texas. The oil sands partnership will invest \$4.6 billion to increase bitumen production to 400,000 bbls/d by 2015 and the downstream partnership will spend almost the same amount to increase the refineries' bitumen processing capacity to 275,000 bbls/d by 2015. The integrated project will involve the shipment of significant volumes of "bitumen blend" (50/50 bitumen and synthetic oil) out of Alberta for further upgrading in Illinois and Texas.¹⁰⁸

While the EnCana-ConocoPhillips announcement did not receive any comment in the recent leadership race, it is clear that the question of whether Alberta's economic interests will be negatively impacted by upgrading is under review by the government. Earlier in the year, the then provincial Energy Minister made the following observation:

¹⁰⁸ EnCana News Release dated October 5, 2006

We have done quite a bit of work on the royalty review and I've actually been extending that a bit to look more at the integration, all the value added, how does that extend to help us create value-added rather than just get the resource out of the ground and let it be shipped in that form.¹⁰⁹

As was noted above, there is no Alberta legislation specifically dealing with exports of oil outside Canada. It is generally accepted that the provinces do not have the constitutional jurisdiction to regulate in this area, with their authority limited to dealing with exports to other provinces. The federal government is given exclusive jurisdiction to regulate trade and commerce and this has been consistently interpreted by the Supreme Court of Canada to apply to international trade.¹¹⁰

It is arguable, however, as to whether Alberta could exercise its power as the owner of the oil sands resource to amend the royalty regime to "encourage" the upgrading of bitumen within the province. While it may be able to do so without stepping outside its constitutional powers, such an act might lead to challenges by foreign companies or their governments under international trade agreements such as the General Agreement on Trades and Tariffs (GATT) or other World Trade Organization agreements. The use of the royalty power to restrict exports of

¹⁰⁹ Calgary Herald, February 13, 2006, page B-7

¹¹⁰ *Central Potash v. Government of Saskatchewan*, [1979] 1 S.C.R. 42; *CIGOL v. Government of Saskatchewan*, [1978] 2 S.C.R. 545

bitumen to the United States could also bring into play certain aspects of the North American Free Trade Agreement (NAFTA).

The new Premier's approach to oil sands royalties and the value-added question will no doubt be closely watched by the oil sands industry and those who monitor the sector. These topics (and the others identified above) could become campaign issues if the Government decides to call an early election (a distinct possibility).

[5] Tax Treatment and the Environment

Canada is a signatory to the Kyoto Protocol to the United Nations Framework on Climate Change and, under the previous Liberal government, ratified the protocol thereby committing Canada to reducing its total emissions of greenhouse gases to 6 percent below 1990 levels by 2008-2012. By 2004, Canada's GHG emissions were **24 percent above** its Kyoto target.¹¹¹ In January 2006, the Liberal government was defeated in an election and replaced by a minority Conservative government. Three months later, the Government formally announced what everyone had known for some time, namely, that Canada has no chance of meeting its Kyoto targets.

Oil sands projects are associated with significant environmental issues, not the least of which are greenhouse gas emissions due to carbon dioxide and the use of enormous volumes of natural gas. Oil sands projects also benefit from very

¹¹¹ 2006 Report of the Commissioner of the Environment and Sustainable Development, Exhibit 6

favourable tax treatment when it comes to the treatment of capital costs. The linkage of these two areas is a distinct possibility in the near future.

Since 1996, oil sands projects (both mining and *in situ*) have been able to write off all their capital costs (in the year spent) before they start to pay any income tax. This 100 percent accelerated capital cost allowance (ACCA) can be contrasted with the 25 percent ACCA that applies to conventional oil and gas projects. It applies to new oil sands projects and to expansions to existing projects (provided the projected production capacity of the expanded project is at least 5 percent greater than that of the existing facilities). The 100 percent ACCA is also available to upgrader projects that are integrated with bitumen production operations.

The oil sands industry, through its representative organization, the Canadian Association of Petroleum Producers (CAPP), argues that the 100 percent ACCA is simply a recognition by the Canadian government that capital expenditures in the development of the oil sands should be treated in the same manner as spending in the mining industry. The large-scale capital investments associated with oil sands projects are more akin to mining development than to conventional oil and gas projects.¹¹²

¹¹² ARC Financial Corporation, "Canadian Upstream Oil and Gas Financial Performance: Outlook 2006-2008" a study prepared for the Canadian Association of Petroleum Producers, March 2006, at page 49.

The governing party in Alberta is not the only Canadian political party to undergo a recent change of leader. The federal Liberal Party recently elected a new leader, Stephane Dion, the former Minister of Environment in the last government led by former Prime Minister Jean Chretien, and the man in charge of the Kyoto Protocol file. In his recent leadership campaign, Mr. Dion stated a government led by him would use the ACCA as an incentive to reduce carbon emission associated with oil sands developments. The ACCA would become "two-tiered" as follows:

1. a normal declining balance CCA (i.e. as used in conventional oil and gas development), based on the expected life of the equipment for traditional oil sands expansions; and
2. a deduction to the extent of total income (i.e. a 100 percent ACCA) for new mines, energy retrofits and major expansions that demonstrate they are "carbon neutral" and/or provide significant water usage improvements on conventional oil sands technology.¹¹³

While the Liberals under Mr. Dion remain the Official Opposition, it is widely expected that the minority Conservative Government will be forced to call an election within the next year and that environmental issues will be hotly debated during the campaign. No doubt, the oil sands industry will be watching closely.

¹¹³ Stephane Dion Campaign, "Building a Sustainable Future for Canada: Stephane Dion's Energy + Climate Change Plan", 2006 at page 24.

