

Meeting the Demands of Rapid Oil Sands Industry Growth: Public-Private Partnerships Can Deliver Municipal Infrastructure Requirements

On November 14, 2006, the Alberta Energy and Utilities Board (EUB) approved the application submitted by Suncor Energy Inc. to proceed with two major projects in the Regional Municipality of Wood Buffalo, Alberta, near Fort McMurray (hereafter referred to as Wood Buffalo). The board made its favourable decision in spite of considerable opposition by stakeholders, who raised concerns regarding serious infrastructure shortages in Wood Buffalo and the impact that these

shortages may have on further oil sands development.

Numerous interventions with regard to the Suncor application were discussed at public hearings held by the EUB in July 2006 (Alberta Energy and Utilities Board, 2006). The interveners cited

socioeconomic concerns in relation to further oil sands investment; both Suncor and the EUB agreed that further oil sands development would place greater strain on the existing infrastructure base in the region (Alberta Energy and Utilities Board, 2006).



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Main Conclusions

- **Key oil sands stakeholders warn that serious municipal infrastructure shortages will pose an immediate challenge to further oil sands development in the Regional Municipality of Wood Buffalo in Northern Alberta;**
- **The Municipality is striving to develop a plan for financing infrastructure investment that will not overextend Wood Buffalo's debt-to-revenue ratio, overburden taxpayers, or delay major industrial projects;**
- **Steps could be taken to attract private investment in municipal facilities through public-private partnership (PPP) arrangements;**
- **Wood Buffalo could adopt a PPP process similar to British Columbia's for delivering public infrastructure projects.**

Since 1995, the oil sands bitumen resource industry has invested billions of dollars in oil sands projects located in Wood Buffalo. The marked increase in economic activity has created a booming labour market and caused Wood Buffalo's population to double within just ten years. According to reports submitted to the EUB, the rapid population growth has outpaced the municipality's ability to keep up with the requirements for infrastructure and community needs such as paved roads, water treatment plants, fire halls, schools, and hospitals. In addition, competition with the oil sands industry for labour and supplies has pushed up local construction costs, thereby exacerbating the infrastructure problem.

As reported in the recent EUB *Decision 2006-112: Suncor Energy Inc.*, and agreed to by various industry and public sector organizations, including the government of Alberta and Wood Buffalo, there is a serious infrastructure shortfall. In this regard, the EUB concluded: "The evidence indicates that the capacity of the existing infrastructure, which in effect has facilitated the expansion of the oil sands industry, has been depleted" and went on to state that "a short window of opportunity remains open to make these investments in infrastructure ... and can be made in parallel with continued oil sands development" (Alberta Energy and Utilities Board, 2006, p. 18).

The objective of this paper is not to engage in a debate pertaining to the state of infrastructure in Wood Buffalo. Rather, it focuses on developing an option that could assist Wood Buffalo in meeting the challenge of expanding municipal infrastructure: public-private partnerships (PPPs).¹

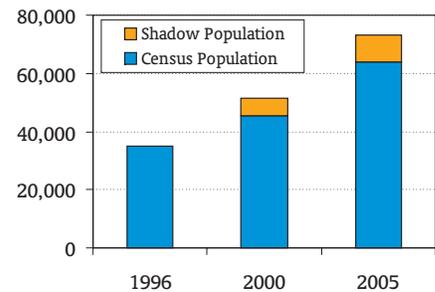
Background

In 1995, the City of Fort McMurray and Improvement District No. 143 were amalgamated to form the Regional Municipality of Wood Buffalo in order to help manage the effects of future growth and investment in oil sands bitumen recovery projects. At the time of amalgamation, the population of Wood Buffalo was 35,213 and investment in the region was forecast to reach \$21 billion over 25 years (Alberta Municipal Affairs, 1996; National Task Force on Oil Sands Strategy, 1995). However, by 2004 that investment target had been surpassed (Department of Energy, 2005).

Between 1996 and 2005, certain factors resulted in unprecedented growth in oil sands industry activities in Alberta. First, higher crude oil prices made oil sands bitumen recovery and upgrading processes more affordable. Second, with geopolitical developments threatening the stability of oil imports from overseas, the supply security of Alberta oil began to appear very attractive to companies, especially American oil refiners, looking for secure, long-term sources of oil. Third, favourable changes in public policy such as reduced regulations and improvements in the fiscal regime pertaining to oil sands projects, including the elimination of the corporate capital tax and reduction of corporate income taxes by Alberta, fostered an attractive investment climate (Clemens *et al.*, 2006).

Together, these factors resulted in a surge of investment in the region. Numerous major oil sands projects² were announced and investment exceeded \$40 billion in the period

Figure 1: Population in Wood Buffalo



Note: Data for shadow population in 1996 not available.

Source: Alberta Municipal Affairs 1996, 2000, 2005

between 1996 and 2005 (Alberta, Department of Finance, 2006a). As a result, the demand for labour to construct and operate oil sands projects increased substantially. With the lure of higher than average wages and numerous job opportunities, the population of Wood Buffalo more than doubled from 1996 to more than 73,176 people in 2005 (Alberta Municipal Affairs 1996, 2005). In 2005, 62.5 percent of the population was employed by "oil-related" companies. An additional 11,779 people were considered to be part of a "shadow population,"³ the growing group of temporary workers housed in oil sands company work camps (Regional Municipality of Wood Buffalo, 2005a; Alberta Municipal Affairs, 2005).

Based on the expectation that the market value of crude oil, in terms of the West Texas Intermediate marker crude, would remain in the vicinity of US\$30 to \$35 per barrel, over \$45 billion in oil sands project investment was predicted in the region within the next five years, with \$20 billion already committed

(National Energy Board, 2006; Alberta Department of Finance 2006a).⁴ The most recent inventory of major Alberta projects undertaken by Alberta Economic Development states that there are currently 14 active oil sands projects within the region with another 20 proposed over the near to mid-term (Alberta Economic Development, 2006).

Over the next five years, the bitumen industry's demand for labour is expected to increase strongly because the anticipated surge in project investment will have a substantial impact on the need for skilled and unskilled workers for construction, operations, and maintenance. With an estimated average annual employment growth rate of 7.4 percent, an expected 24,000 jobs will be created in the region between 2006 and 2011, with the most rapid growth in the trades and construction industries (Alberta Human Resources and Employment, 2006). For example, the government of Alberta expects the demand for construction and trades people to increase by 15 percent and 25 percent respectively between 2006 and 2011 (Alberta Human Resources and Employment, 2006).

Fort McMurray's Urban Service Area is expected to experience the majority of the population growth. With an expected average annual growth rate of 9 percent between 2006 and 2010, it has been estimated that the population of the Urban Service Area will exceed 90,000 by 2010 (Regional Municipality of Wood Buffalo, 2005b). Further, the shadow population is expected to expand

substantially, placing even greater demand on municipal facilities and services.

As indicated in submissions presented to the EUB regarding the Suncor decision, various private and public organizations have claimed that, although Wood Buffalo's economy is booming and employment opportunities are abundant, accelerated investment and population growth has placed considerable strains on the municipality's ability to maintain and build public infrastructure. The

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authors have not researched the extent of the infrastructure problem indicated by the EUB; however, an independent, non-profit organization that has is the Athabasca Regional Issues Working Group (RIWG).⁵

In 2005, the RIWG, in conjunction with the municipality, Keyano College, the Fort McMurray and Northland School Divisions, and the Northern Lights Health Region, submitted the *Wood Buffalo Business Case* to the government of Alberta.

The report warned of serious infrastructure gaps throughout the region and insisted on the advisability of investing in public infrastructure from schools, hospitals, roads, water treatment plants, fire protection and police facilities, to indoor recreational facilities. It stated that the region would have to create a plan that would address the need for: "catch up" and delayed projects; preserving and improving current infrastructure; and consider the infrastructure requirements necessary to support the shadow population living temporarily within the Wood Buffalo region (Athabasca Regional Issues Working Group, 2005).

Escalating capital costs are a serious concern for Wood Buffalo. In direct competition with the oil sands companies for labour and supplies, construction wages and materials costs have increased substantially. The Spring 2006 *Alberta Provincial Budget* stated that capital costs have risen between 7 and 20 percent, with "isolated northern communities experiencing the most severe cost pressures" (Alberta Finance, 2006b, p. 254). By way of example, the average hourly rate for construction workers in the Wood Buffalo region was the highest in the province at \$27.17 (Alberta Human Resources and Employment, 2005).

In recent months, applications by oil sands companies to expand or build new bitumen recovery and/or upgrading operations have ignited debate as to Wood Buffalo's ability to provide adequate public infrastructure to support the population growth that is expected from further project development. In fact,

the municipality has called for cessation of further approvals of new oil sands projects until the infrastructure that is required simply to meet the needs of today's population has been secured (Regional Municipality of Wood Buffalo, 2006a; Alberta Energy and Utilities Board, 2006). Approaches that have been considered by Wood Buffalo to ensure that the municipality can keep up with the needed growth in infrastructure requirements include increasing its debt-to-revenue ratio and/or tax rates, as well as slowing the pace of industrial development (Regional Municipality of Wood Buffalo, 2005c; 2005d; and 2006b).

Wood Buffalo might assume more debt to help meet its infrastructure requirements; however, the requirements are such that, in spite of increasing revenues on account of economic and population growth, the municipality could quickly find itself burdened with the highest debt-to-revenue ratio in the province—well surpassing the special 2.0 percent limit that was set for Wood Buffalo through an amendment to *Alberta Regulation 255/2000* under the Alberta Municipal Government Act early in 2006 (Alberta Municipal Affairs, 2006). Wood Buffalo would then have to face the long-term implications of increasing debt service payments as a proportion of total operating costs.

Another means for meeting increased expenditure requirements would be to increase property taxes. However, because of market conditions, major increases in residential property assessments have already sharply increased the annual property tax obligations for Wood Buffalo residents. For this

reason, the municipality is striving to gradually lower the residential mil rate. Residential tax revenues are projected to continue increasing but at a slower rate. The region is in the process of increasing its non-residential plant and equipment tax rates, which are lower than in most Alberta regions.

The Wood Buffalo municipality could benefit from entering into public-private partnerships (PPPs) to build, finance, and operate public facilities.

Because increasing non-residential tax rates relative to residential rates can seriously affect the attractiveness of a region from a business investment perspective, it is understandable that Wood Buffalo may wish to avoid raising non-residential mil rates more than already planned (Bish, 2004).

The municipality of Wood Buffalo's suggestion that the pace of development be slowed to permit infrastructure growth at a more orderly and carefully planned rate would pose considerable difficulty for the provincial government and investors, not to mention the region's prosperity (Regional Municipality of Wood Buffalo, 2006a). Changing the rules in midstream would have a serious impact on Alberta's

investment climate and prompt some would-be developers to focus on projects in other countries. The economic costs of lost oil sands project investment would be considerable in terms of employment and GDP growth.

At a time when substantial population growth and the pressure of capital costs are weighing heavily on municipal projects, Wood Buffalo must develop a plan for financing infrastructure that will avoid overextending the municipality's debt-to-revenue ratio, overburdening taxpayers, or causing major industrial projects to be delayed. The following section examines the potential for public-private partnerships to assist Wood Buffalo in meeting its infrastructure investment challenge.

Public-Private Partnerships (PPPs) as a Solution

Considering Wood Buffalo's desire to deliver infrastructure improvements and additions as rapidly as possible while ensuring that the region's taxpayers receive the best possible value, the municipality could benefit from entering into public-private partnerships (PPPs) to build, finance, and operate public facilities. The term "public-private partnership" relates to the provision of public services or public infrastructure involving the transfer of risk between partners. The Canadian Council for Public-Private Partnerships (CCPPP) considers a PPP to be "a cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and

rewards” (Canadian Council of Public-Private Partnerships, 2006).

The essential advantage of the PPP approach is that the public sector benefits from private management skills when private capital is at risk. As Finn Poschmann points out, “when private agents pledge their own resources, they have a strong incentive to closely monitor project management to ensure the best possible overall financial return on their investment... The incentive is typically muted or missing, if only public-sector managers are responsible for a project” (Poschmann, 2003, p. 2).

In Canada, PPPs have been used to assist municipalities to build water treatment facilities, court houses, hospitals, education facilities, and recreation centres.

Involving private sector investors as equity risk takers in PPPs brings discipline to project design, development, and management. For the public sector partner, the potential advantages include on-time delivery, improved project design, avoidance of the need to increase direct debt, risk sharing, and cost savings.⁶ For investors, PPPs are attractive because they hold the prospect of

reliable and superior risk-adjusted long-term investment returns compared with more conventional investments (HM Treasury, 2003).

Experiences of other jurisdictions suggest that the use of PPPs could enhance Wood Buffalo’s ability to meet its infrastructure requirements. Australia embarked on its first PPP project in 1988 and the UK has used this form of funding through its Private Finance Initiatives (PFI) program since 1992 (Grimsey and Lewis, 2002). The OECD referred to the UK PFI experience in its 2006 *Economic Survey of Ireland*, which indicated that the share of public investment in the United Kingdom that is channeled through PFIs has stabilized in the vicinity of 10 percent (OECD, 2006). The National Audit Office there has found that a much higher proportion of projects are completed on time under PFIs than with traditional procurement and that project budgets are being met, as indicated by the fact that the government has not had to bear construction cost overruns. Other benefits of PPP arrangements cited include technical and design innovation and improved construction quality (OECD, 2006).

The main feature of a successful PPP arrangement is the appropriate allocation of risk between the public and private partners and a contract structure that allows both partners to “win” (Poschmann, 2003). In fact, PPP arrangements are often characterized by the degree of risk transferred to the private partner. A few low-risk examples include the “Design-Build” and “Operation and Maintenance” PPP agreements. These are generally

considered low risk because ownership usually remains in the hands of the government and the agreements are generally for short terms.

When considering higher risk PPP agreement options, the models tend to involve longer-term private investor involvement. In the case of a “Design-Build-Finance-Operate” agreement, the private partner takes on more risk by entering into a more complex, long-term contract to construct, fund, and manage a public facility until the end of a lease term (Canadian Council for Public-Private Partnerships, 2006). Taking this one step further, there is the “Build-Own-Operate” model that transfers most, if not all, of the risk to the private partner to construct, manage, and own the facility. In this type of agreement, public constraints are included in the contract and monitored continuously by a “regulatory authority” (Canadian Council of Public-Private Partnerships, 2006).

In Canada, PPPs have been used to assist municipalities to build water treatment facilities, court houses, hospitals, education facilities, and recreation centres. In Alberta, the southeast Edmonton “ring road” was constructed via a PPP arrangement, as well as an Edmonton water project in which the city of Edmonton partnered with EPCOR (Canadian Council for Public-Private Partnerships, 2006).⁷

PPP arrangements appear to be especially attractive to governments in high growth jurisdictions like Wood Buffalo, which are hard-pressed to finance new infrastructure on account of above-average population and economic growth. Because of Alberta’s strong economic growth

and stable political climate, a number of companies with previous experience in PPP agreements would likely be interested in exploring such arrangements with the municipality.

In considering the PPP option, Wood Buffalo could adopt a process similar to that which British Columbia has developed for delivering public infrastructure (Partnerships BC, 2005).⁸ This would involve establishing a review committee composed of experts from the municipality and industry to advise the municipality, without bias, whether a PPP arrangement should be considered in the case of any high priority project referred to it by Wood Buffalo.

If, for example, a water treatment facility was referred to the committee, the members would be expected to carefully examine the pros and cons of Wood Buffalo entering into a PPP arrangement to build the facility. Two approaches would be used in the analysis: a traditional model according to which the municipality would maintain control, ownership, and management responsibilities; and a PPP model in which a private partner would construct and then operate the water treatment plant in accordance with a contractual agreement. Specifically, the analysis would focus on comparing building construction, operating and maintenance costs, debt service costs, revenue, and costs in relation to the provision of services, gross and net cash flow, risk management, delivery time, technological innovations, and other factors (Partnerships BC, 2005).

If the review committee recommended that the PPP approach be chosen, and the municipal

government concurred, Wood Buffalo would issue requests for proposals to potential partners to build and operate the water treatment facility. Proposals would be evaluated by the municipality on the basis of a set of pre-determined criteria. These would include such factors as the expertise of potential private partners in building water treatment plants, their ability to reduce construction and/or operating costs through innovation and sound management practices, and previous experience in partnerships with public sector organizations (Partnerships BC, 2005).

When a private partner has been selected from the proposals received, the municipality and private partner would finalize the terms and conditions of a PPP contract. Key points of negotiation would likely include the timelines for the design, construction, and operation phases, end-of-term provisions, the cost of the contract, and the allocation of liabilities and risk to the parties in each phase. A revenue-sharing structure would be negotiated, most likely with a minimum return guarantee to the private partner with payments commencing when the facility starts operating (Partnerships BC, 2005).

Essentially, Wood Buffalo would agree to pay the private partner to cover both the cost of capital and the cost of services required to operate and maintain the assets. The payments would come from Wood Buffalo's operating budget in the same manner as do debt service charges, building operating expenses, and allocations to the municipality's "capital reserve" fund.

No increase in the region's outstanding debt would be required with respect to the assets and services contracted for, unless tax revenues and other revenue sources, such as grants from the provincial government and developers, were insufficient to meet total operating expenses. The municipality would therefore avoid increasing its direct debt-to-revenue ratio and the ratio of debt servicing cost to total operating expenses.

Even though Wood Buffalo's contractual commitments to the private sector partner would constitute a part of the municipality's total indebtedness (Palacios and Veldhuis, 2006), together with bank loans, debentures and other debt instruments, Wood Buffalo would benefit if the terms of the PPP contract were met and if Wood Buffalo's obligations to the private partner were less than the sum of the costs that the municipality would have to incur if it were to build, run, and operate the facility itself. This could be achieved to the extent that costs are reduced through construction and/or operational efficiencies, and prudent long-term agreements are arrived at for the operation and maintenance of the facilities.⁹ With appropriate management, PPP arrangements could save Wood Buffalo both time and money in the delivery of new facilities and relieve some of the pressure that the region faces as a consequence of being a high growth region.

Conclusion

As was acknowledged in the recent Alberta Energy and Utilities Board Suncor Inc. ruling, Wood Buffalo

faces serious infrastructure gaps that could hinder its ability to support further growth in the oil sands bitumen resource industry. In order for Wood Buffalo to achieve the infrastructure investment growth that is in keeping with the anticipated rate of population growth, funding mechanisms in addition to the traditional increase in debt and/or taxes are necessary to ensure that the municipality's basic infrastructure requirements are met in a timely and cost effective manner. Therefore, we recommend that Wood Buffalo give serious consideration to partnering with private sector investors interested in assuming a portion of the risk associated with long-term infrastructure investment.

Notes

- 1 Public-private partnerships are often referred to as PPPs or P3s. In line with the Canadian Council for Public-Private Partnerships (CCPPP) and the literature reviewed, in this paper we refer to public-private partnerships as PPPs. Please see the CCPPP website for more information: www.pppcouncil.ca.
- 2 Projects totaling over \$200,000,000 in construction costs (Alberta Economic Development, 2006).
- 3 "A person who resides in a municipality on a seasonal basis for a given period of time but has a permanent residence elsewhere... A municipality requires the prior approval from the Minister of Municipal Affairs in order to include the shadow population in its official census" (Alberta Municipal Affairs, 2005).
- 4 Other things being equal, today's expected higher oil prices should attract even greater investment.

- 5 The Athabasca Regional Issues Working Group (RIWG) was formed in 1997 to deal with oil sands related issues in the Wood Buffalo region. The RIWG is funded by industry stakeholders, which include over 20 member companies involved in the region's development. These members work closely with aboriginal groups, local and provincial governments, and the public to provide information regarding oil sands growth within the region (Athabasca Regional Issues Working Group, 2005).
- 6 Of course there is no guarantee that the municipality will be better off. However, if the contract is developed properly and in a mutually beneficial manner, the benefits listed should be enjoyed.
- 7 Although EPCOR is owned by the City of Edmonton, it operates as an independent for-profit corporation and has entered into numerous partnership agreements to design, build, finance, and operate water treatment facilities with public and private partners in Alberta and British Columbia.
- 8 Partnerships BC is a company owned by the province of British Columbia, which facilitates public-private partnerships on behalf of the public sector. For further information, visit www.partnershipsbc.ca.
- 9 To the extent that the infrastructure is built sooner than otherwise, some reduction in the capital cost might be realized given the inflation that is being driven by the shortage of skilled workers in the region.

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