



Fueling Fortress America

A Report on the Athabasca
Tar Sands and U.S. Demands for
Canada's Energy



CCPA
CANADIAN CENTRE
for POLICY ALTERNATIVES
CENTRE CANADIEN
de POLITIQUES ALTERNATIVES



CCPA

CANADIAN CENTRE
for POLICY ALTERNATIVES
CENTRE CANADIEN
de POLITIQUES ALTERNATIVES

ISBN 0-88627-471-0

This report is available free of charge from the CCPA website at www.policyalternatives.ca. Printed copies may be ordered through the National Office for a \$10 fee.

**410-75 Albert Street
Ottawa, ON K1P 5E7**

**TEL 613-563-1341 FAX 613-233-1458
EMAIL ccpa@policyalternatives.ca
www.policyalternatives.ca**

CAW 567
OTTAWA

Acknowledgements

This Report was researched and written by journalist and author Hugh McCullum. In preparing and writing the Report, Hugh worked in close collaboration with a steering committee composed of Diana Gibson and Gordon Laxer from the Parkland Institute in Alberta, Tony Clarke and Steve Staples from the Polaris Institute, and Bruce Campbell from the Canadian Centre for Policy Alternatives. All three organizations contributed the resources required for this project.

5	Introduction
1	Fortress America
2	Energy Satellite
3	Ecological Blowout
4	Military Fuel Pump
5	High Social Costs
	Conclusions
	Bibliography
	Appendix One

Introduction

Call it “petro-rage.” That pretty well sums up the psychological feelings of many Canadians’ reaction to skyrocketing oil prices in the summer of 2005. At gas pumps across the country, motorists by the thousands lashed out against the seemingly never-ending escalation in gasoline prices. Nor did it help when, in early September, reportedly the worst hurricane in U.S. memory, Katrina, knocked out drilling operations in the Gulf of Mexico, thereby giving yet another spike to oil and gas prices.

In some ways, the summer of 2005 was reminiscent of the fall of 1973 when cuts in production and supply by the newly-formed Organization of Petroleum Exporting Countries (OPEC), along with the major petroleum companies, provoked a global energy crisis characterized by shortages of oil and gas, plus long lineups at gas pumps. Then, as now, people vigorously questioned oil companies’ gouging profits and what role governments had in controlling energy supplies and prices in the public interest.

This petro-rage, of course, is not an isolated occurrence. It is directly linked to a string of geopolitical events related to oil. The war in Iraq and regional instability had already sent clear signals about the unreliability of Middle East oil supplies. The United States, the world’s largest consumer of oil, which had depleted so much of its domestic reserves and become increasingly dependent on

foreign sources, found itself in a more precarious position with regard to dependable supply lines than ever before. Moreover, geological surveys indicated that world-wide oil production had either reached or was very close to reaching its peak, and that the oil remaining beneath the Earth’s crust would be more and more difficult and expensive to obtain. In short, a global oil crisis was in the making that would put the addiction of Western industrial societies to fossil fuels in serious jeopardy.

For Canadians, petro-rage also has important continental implications in terms of our relations with the U.S. In the spring of 2004, Canada surpassed Saudi Arabia to become the largest foreign supplier of oil to the U.S. Given the uncertainties of the Middle East and Venezuelan supply lines, the U.S. steadily increased its oil imports from Canada, facilitated in large measure by the proportional sharing clause on energy that had been incorporated in the North America Free Trade Agreement (NAFTA). As a result, Canada has become the largest foreign supplier of oil, natural gas, electricity, and uranium for energy to the United States. This development, in turn, is taking place at a time when the U.S., as the world’s predominant economic and military superpower, has reasserted itself with imperial characteristics on the global scene. In addition, this increasing dependency on Canada to meet energy security

needs in the U.S. is rapidly depleting our conventional reserves of oil and natural gas to the point where our own energy security could soon be in jeopardy.

Enter the Athabasca tar sands of northern Alberta, the largest known hydrocarbon deposit ever discovered so far on the planet. It is estimated to contain between 175 and 200 billion barrels of recoverable oil using existing technologies. In total, however, the tar sands could contain as much as 2.5 trillion barrels of oil, but new and questionable technologies would be required to access these reserves, and at enormous costs. Led by the pioneering tar sands developers Suncor and Syncrude and, in 2003, Albion Sands Energy Inc., there are now three major projects producing crude oil in the Athabasca tar sands.

In the last two years, according to the Canadian Association of Petroleum Producers (CAPP), six more massive developments are under way and are projected to spend as much as US\$100 billion over the next 20 years constructing and developing their projects. Meanwhile, many other leases are being explored as the high price of oil makes these resources financially more viable. Since huge amounts of natural gas are required to extract the deeper reserves of oil from the bitumen and process it as crude oil, the plan is to build a pipeline corridor down the Mackenzie Valley to transport natural gas from the Arctic to fuel these gigantic tar sands projects. In effect, the Athabasca tar sands are designed to be the crown jewel and centerpiece of a new continental energy corridor to bring oil and gas to the U.S. For Canadians, it will also have profound economic, ecological, and social consequences.

Indeed, the development of the tar sands poses both a challenge and a dilemma for Canada in terms of energy futures. Suddenly, we find ourselves as part of both the problem and the solution. On the one hand, the rapid development of the tar sands is destined to fuel the industrial

and military interests of the U.S. at a time when there are clear warning signals that Western society needs to radically curb its addiction to fossil fuels. On the other hand, there may be ways of constructively developing the tar sands in such a way as to contribute to Canada's long-term energy needs, including the transition from dependence on fossil fuels to a soft-path energy future. Yet, there is no such thing as a Canadian national energy policy and strategy in place. Ever since the dismantling of the National Energy Program and the stripping of its mandate and powers, there has been no made-in-Canada energy policy in effect, nor does any level of government appear to be conducting the required research and education to generate a public demand for policies to meet the world energy crisis.

Herein lie the reasons for commissioning this report. As Canadians, we need to decide what kind of an energy future we want: whether we should continue down the path of being an energy satellite of the U.S. empire, and in the process jeopardize our own energy security; or whether we should exercise more sovereignty and independence by developing a long-range policy that meets Canada's energy needs while promoting an energy future that is not dependent on oil. Since the Athabasca tar sands development is planned to be the cornerstone of a major energy corridor to the U.S., it provides a concrete set of projects from which to examine these issues and concerns about energy futures.

Our report is entitled *Fuelling Fortress America*. Its underlying purpose is to cast a spotlight on the Athabasca tar sands, including the profound economic, ecological, and social costs at stake in their development, in such a way as to stimulate public discussion, debate, and action towards a new made-in-Canada energy policy and strategy. The report itself is divided into five chapters, each dealing with a line of inquiry.

- The U.S. empire and its demands for energy security: The growing dependence of the U.S. on foreign oil; how Canada exports its oil and natural gas to the U.S.; the role of the proportional energy-sharing clause in NAFTA; the huge growth and threat of China's energy needs; and how this all relates to the global depletion of fossil fuels and Canada's future energy security.
- The role that Canada plays as a U.S. energy satellite: The nature and scope of the Athabasca tar sands as a major source of oil; the existing projects and rapidly growing developments; the kind of extraction processes used; the energy intensity of the process and the role played by natural gas; the proposed Mackenzie Valley pipeline to bring gas from the High Arctic; and the emerging continental energy corridor.
- The environmental costs of this new energy corridor: The extremely dirty kind of synthetic oil that ravages the Northern environment through its destructive production methods; the high levels of greenhouse gas emissions created by the extraction processes and their impact in terms of Canada's Kyoto commitments; the corresponding amount of water pollution and depletion; and the damage of pipeline construction on permafrost and the Northern ecology.
- The fuelling of the U.S. military-industrial complex: The existence of a military-based economy in the U.S. that is highly dependent on fossil fuels, the links between oil and war, and the imperative to secure control of oil producing territories; the new U.S. doctrine on national security; and the continental security regime.

- The social impacts of the tar sands and pipeline: How the fast pace of development combines with a lack of vision or industrial strategy in the province of Alberta, and the resultant impacts on life in Fort McMurray as Alberta's latest boomtown; the collapse in public services, including housing, fire, police, water, and social services; the issue of royalties and financing social needs; the moves to use non-unionized and cheap foreign labour in the tar sands projects; and the impacts on First Nations.

The report concludes with a set of recommendations on what needs to be done to stimulate new policies and strategies on three fronts: 1) the question of further development of the Athabasca tar sands and the construction of the accompanying Mackenzie Valley and Alaska natural gas pipelines; 2) the question of a made-in-Canada national energy policy and strategy for the 21st century, and what needs to be done about it; and 3) the question of short- and long-term plans of action for the development of Alberta and the North as oil and natural gas producing regions of the country.

Finally, the methodology used in the preparation of this report is that of action-inquiry. By this, we simply mean an inquiry into a major set of public policy issues that leads to strategic suggestions for follow-up education and action. In addition to surveying the available literature on the issues discussed in this report, the project has involved participatory research through field visits and corresponding interviews with some of the key players. On-site visits, for example, were made to the Alberta oil patch, Fort McMurray, and the major tar sands development projects, as well as Yellowknife and other parts of the Mackenzie Valley where the proposed Arctic natural gas pipeline is to be built. Visits were also made

to the aging conventional oil fields in Saskatchewan and Alberta. A draft of the report, along with the findings of these field visits and research, were reviewed by a steering committee composed

of representatives from the three sponsoring organizations — the Canadian Centre for Policy Alternatives, the Parkland Institute, and the Polaris Institute.

1 Fortress America

In January 2005, the *New York Times Magazine* carried a cover story entitled “The American Empire,” with a lead article by Canadian academic and author Michael Ignatieff. The term “empire,” he wrote, describes that “awesome thing that America’s becoming, an imperial power means enforcing such order as there is in the world and doing so in the American interest.”

Living next door, most Canadians are well aware of what it means to live and work in the shadow of that empire. Since the collapse in 1989 of the Berlin Wall, symbolizing the demise of the Soviet Union, the U.S. has become the sole economic and military superpower on the planet in our times.

“Fortress America” is the term often used by writers and other critics of U.S. imperial and homeland security policies to portray the expansion of Washington’s powers over its neighbours on this continent. Under continental free trade, Canada’s status as a satellite of the U.S. has largely been reinforced through its deepening integration with the U.S. economy. Since maintaining energy security has been one of the top priorities of the George W. Bush presidency, Canada’s role in Fortress America could well turn out to be more crucial than ever before.

Empire Energy Demands

Of the major industrial countries of the 19th and 20th centuries, the United States was by far the best endowed with fossil fuels. Oil was so plentiful during the Great Depression, and demand so slack due to the economic crises, that prices slumped to 10 cents a barrel. The country was awash with oil, and imports were unheard of. The U.S. remained the world’s leading producer and exporter for much of the 20th century and, with its love affair with the automobile, plastics, and other synthetics, has never ceased to be the world’s largest consumer of oil.

U.S. national energy policy is still heavily influenced by the memories of the OPEC embargo of 1973. In September 1960, five major oil-exporting countries (Iran, Iraq, Saudi Arabia, Kuwait, and Venezuela) met in Baghdad to form the Organization of Petroleum Exporting Countries (OPEC) and, in 1965, eight more countries joined the cartel. Originally, its headquarters was in Geneva, but now it is based in Vienna. All these countries and newer members nationalized their oil companies and quickly Saudi Arabia and Iraq became the world’s largest oil producers and exporters. Initially, OPEC was not taken seriously by the U.S. or much of the rest of the world, until the 1970s when it began to increase its prices

above the long-standing base of US\$1.80 to US\$2 a barrel.

Then came the oil shockwaves of 1973. OPEC — which became a four-letter-word to Americans (especially Saudi Arabia) — clamped a hard-nosed five-month embargo on the United States, following the Yom Kippur war between Israel and Syria and Egypt.

The apocalyptic visions of the 1973–4 oil embargo still linger: drivers brawling at gas pumps; a neutered U.S. president begging foreign leaders for more oil; prices skyrocketing; OPEC and Arabs synonymous with dirty politics. While it didn't last long, the embargo had a profound impact on the world of oil and on politics in general. The glut that had plagued the industry until the early 1970s changed dramatically. Supplies began to tighten, and the U.S. was no longer able to use its own reserves to take up the slack. Instead, these reserves were becoming rapidly depleted.

The world's — and especially America's — over-dependence on oil is not a new phenomenon. U.S. President Jimmy Carter, in a series of speeches in 1979, said that “hyper-dependence on oil is a deadly trap” unless significant lifestyle changes were undertaken. He appeared on television wearing a sweater to emphasize the need to reduce consumption. Carter was ridiculed by big oil and its supporters in the mass media, and later voted out of office for his naiveté. During the following regimes of Ronald Reagan, Bill Clinton, and the Bush dynasty, Alaskan and North Sea bonanzas allayed memories of the 1970s oil crises. The inevitable world peak for this non-renewable resource was still years away and was seldom mentioned while spin-doctors worked like mad to burnish Big Oil's often-scruffy public image.

Canada was somewhat sheltered from the OPEC crisis. During the 1970s and up to the 1980s, Canada maintained a two-price policy for oil — a domestic price and an international price — which meant that the international increases by the

OPEC nations did not affect Canadians. That favourable policy for domestic consumers was cancelled when the Mulroney government repealed the National Energy Program in 1985.

When the George W. Bush government came to power in early 2001, the new President declared that tackling the nation's “energy crisis” was his most important task. This was before the Sept. 11, 2001 attack on the World Trade Center and the Pentagon. From the outset, it was clear that the Bush White House had intimate ties to oil interests, including the royal House of Saud through Prince Bandar, the long-time Saudi ambassador to the U.S., the bin Laden family itself, and the Carlyle Group which pools and coordinates investments in oil interests. In addition to George W. Bush's own involvement with the Houston oil patch, Vice-President Dick Cheney himself was the former CEO of Halliburton Oil Services, and current Secretary of State Condoleezza Rice was a former member of Chevron Oil's board of directors.

Energy was propelled to the forefront of the Bush presidency as a cornerstone of U.S. policy, linking foreign affairs with defense and domestic policy. In Washington circles, energy security became synonymous with national security interests. As Senator Don Nickles put it: “We cannot have national security without energy security. The two go hand in hand.”

Meanwhile, questions persist about the real capacity of Saudi Arabia's oil reserves, which are, by Saudi law, a state secret. The Saudi oil ministry claims to have 461 billion barrels “ready to pump in a few years.” But Matthew Simmons, who advises Bush on energy, estimates the Saudi reserves to be much smaller, more like 262 billion, while Mark Anielski says flatly, “Middle East reserve figures are notoriously suspect.” He predicts Saudi Arabia's supplies will peak in 2008, followed by Kuwait in 2015 and Iraq in 2017. Anielski is an Edmonton-based economist and ecologist, and

chief executive of Anielski Management Inc., which specializes in building sustainable community growth.

As a result, Washington's attention has turned elsewhere: to Africa, Central Asia, and, more recently, to Alberta, whose Athabasca tar sands are seen as a major source of energy security. In an increasingly turbulent world of oil politics, Canada provides a relatively safe and secure haven of energy supplies for the U.S. Not only is Canada's oil patch close geographically to the U.S. market, but also the American oil giants are already well integrated with the Canadian oil industry. Moreover, the U.S. oil industry and its Canadian subsidiaries have invested, or plan to invest, massive amounts of capital in the tar sands. Over the years, much of the impetus for developing the synthetic oil in northern Alberta has depended on the price of oil and the demands of the U.S. market.

Cheney's National Energy Program

One of President Bush's first actions, just nine days after being sworn into office in 2001, was to establish the National Energy Policy Development Group (NEPDG), headed by Vice-President Cheney. Questioned by the media and political opponents, Cheney denied there was any conflict of interest because of his associations with Halliburton and Carlyle [both of which had done hundreds of millions of dollars of oil business with the Saudis]. "I've severed all my ties with the companies and gotten rid of all my financial interests," he declared. He failed to mention that he was still owed US\$500,000 in deferred compensation and held 433,333 stock options in Halliburton.

Cheney's mandate was to develop a long-range plan to meet U.S. energy requirements. In doing so, Cheney put together an advisory team composed of top executives of energy firms, one of which was the now disgraced and defunct Enron Corp. The NEPDG had to choose between two

widely diverging paths. It could continue down the road the U.S. had long been travelling, consuming more and more fossil fuels and, because of its own declining reserves, becoming more and more dependent on imported supplies; or it could choose an alternate route of conservation and greater reliance on renewable resources while gradually reducing petroleum use, so that the U.S. would no longer have to rely so heavily on foreign energy sources.

The NEPDG claims to have wrestled with this dilemma, but issued its report just four months after its establishment. Upon receiving Cheney's report, Bush anointed it as *the* National Energy Policy [NEP], on May 17, 2001. At first glance, the Cheney Report appeared to reject the path of increased reliance on imported oil in favour of renewable resources through new technologies and conservation. For all its rhetoric, however, the NEP does not propose reduction in oil consumption. Rather, it proposes to slow dependence on imported oil by boosting production at home through the exploitation of untapped reserves in protected wilderness areas. With the exception of the Arctic National Wildlife Refuge in Alaska, nothing in the NEP would contribute to any decline in U.S. dependence on oil imports. In fact, the opposite is true: the basic goal of the Cheney plan is to secure additional external sources of oil.

The Cheney Report noted that domestic oil supplies had peaked in 1970 and, as a result, "the U.S. and global economies remain vulnerable to a major disruption of oil supplies." As the report progresses, its tone changes markedly from a professed concern for conservation and energy efficiency to an explicit emphasis on securing more oil from foreign sources. It calls for a mandate to "make energy security a priority of our trade and foreign policy." Although the report is guarded about the amount of foreign oil that will be required, it forecasts that imports will have to rise

from about 13.2 million barrels a day in July 2005 to 18.5 million by 2020. How to procure this amount, which is equivalent to the total oil now consumed by India and China, is a big question for much of the remainder of the Cheney Report.

The Cheney Report has already had, and will continue to have, a profound impact on future U.S. security and foreign and military policy, and will increase pressure for Canada — in the words of former U.S. Ambassador to Canada Paul Cellucci — “to complete the integration of our energy markets.” One proposal has been for the U.S. to guarantee a fixed price for tar sands synthetic crude going south. In return, the U.S. would get unrestricted access to the resource. A collaborative report from two Canadian and American investment groups stated that such an arrangement would give Wall Street investors “the comfort required to commit the billions of dollars necessary for optimal production from the oil sands.”

China’s Energy Threat

As China becomes a major industrial power, its demands on global oil and natural gas supplies multiply, thereby posing a serious threat to U.S. energy security. Along with the U.S., China views potential energy shortages as a serious threat to its own national security and social stability. Today, there is no doubt about China’s thirst for oil, whose consumption rate has quadrupled since 1980. It has surpassed Japan as the second largest market for oil, with a total demand for 6.5 million barrels a day, and increased its imports 40% by the last half of 2004. China’s oil demands are projected by the Energy Information Administration to reach 14.2 million barrels a day by 2025. A decade ago, China was a net exporter of oil, but now needs to import more than three million barrels a day. Within 15 years, China is projected to have as many as 140 million private cars on its roads — a spectacular rise from the 24 million to-

day. Analysts say its energy needs have grown by 7% annually, and may accelerate further. “China will eclipse U.S. consumption in 20 years or less,” says Angelskin, “and there’s not enough oil to feed two superpowers.”

Not surprisingly, China, like the U.S., is focusing on international strategies to secure long-term energy supplies for the future, including Alberta’s tar sands. To increase its own energy security, China is currently seeking to make oil deals in many parts of the world once considered American territory for oil — countries such as Saudi Arabia, Nigeria, and Sudan — looking for access to oil anywhere possible. Ken Chung of the Alberta Research Institute says these deals are not strictly business: “It’s politics.” He explains that Chinese oil company Sinopec is looking at a bid for Husky Oil, which is controlled by Hong Kong billionaire Li Ka Shung who owns tar sands leases. “Making money isn’t the first priority. The priority is to secure petroleum — they want two million barrels a day from Alberta.”

China has even tried to venture directly into the U.S. oil industry, but has been soundly rebuffed. When the state-owned Chinese National Offshore Oil Corporation [CNOOC] made a counter-bid against Chevron for the purchase of the California-based oil company Unocal, there was unprecedented political opposition mobilized in the U.S. Congress. By a vote of 398 to 15, the House of Representatives overwhelmingly opposed the proposed takeover of Unocal on grounds that it would “threaten to impair the national security of the United States.” Similar opposition was also expressed in the Senate. In August 2005, CNOOC was forced to withdraw its bid, citing “hostile reaction” and “implacable opposition” from the U.S. Congress. In order to protect their own interests, American officials also monitor talks between the Chinese and various Canadian oil companies.

Similar opposition or sovereignty concerns have not been raised in Canada. Syncrude has al-

ready sent a trial shipment of oil to PetroChina. Enbridge Pipelines Inc. is negotiating with China to build a US\$2.5 billion pipeline from Edmonton to Prince Rupert on the B.C. coast, with the Chinese assuming a 40% interest in the project. UTS, a Calgary company with a large lease in the tar sands, turned to China when its American partner pulled out, citing high costs and Canada's participation in the Kyoto Protocol.

If the Chinese are able to secure a significant toe-hold in the Athabasca tar sands, it will mean a diversified market for Canada, more foreign investment, and consumer competition — the closest thing to market leverage we have. How the Americans will react to this “interest” can be seen in a *New York Times* article late last year under the heading “China Emerging as Rival to U.S. for Oil in Canada.” The lead paragraph read: “China’s thirst for oil has brought it to the doorstep of the United States.” American investment controls between 40% and 50% of Alberta’s oil, hence the proprietorial tone to the article. China’s presence in the tar sands is seen as a provocation. Says Ken Chung: “The biggest concern for the Chinese in the tar sands is the Americans, just as the biggest concern for the Americans is the Chinese.”

Meanwhile, it isn’t just China and the U.S. that are locked in an increasingly aggressive struggle over oil, the world’s most critical commodity. India has joined the scramble that will shape much of the geopolitical future of the world. With China nudging the U.S. for superpower status, India, with its huge population and burgeoning economy, is running just behind China in its own oil needs. India, the world’s second fastest growing economy after China, now consumes 2.2 million barrels a day, expected to rise to 5.3 million barrels by 2025. The once poverty-stricken country has 36 times more cars than it did in 1990. India has invested US\$3 billion in global exploration ventures and has said it will continue to spend a billion dollars a year on more acquisitions.

Recently, a senior energy analyst at the Merrill Lynch investment corporation, Michael Rothman, calculated that every additional US\$1 increase in the price of oil costs the global economy US\$25 billion. He accuses China — and, to a lesser degree, India — of “hoarding” oil by creating reserves similar to the U.S. Strategic Petroleum Reserve of 700 million barrels. While India and China’s reserves are much smaller [25 million and 175 million barrels, respectively], they are avidly surfing the world for oil the U.S. also wants. And neither country is preoccupied with the war on terror and Iraq, so the U.S. has been unable to checkmate either country as successfully as it could in the past.

Canada’s Dwindling Energy Supplies

Despite the tar sands being viewed as the great white hope, Canada’s conventional energy sources are dwindling. As far as oil is concerned, Canada’s reserves are running out. In 1997, conventional oil reserves, including offshore, were estimated to be 10 billion barrels. By 2004, these reserves had dropped to 4.354 billion — less than 20 years’ supply at current rates of production. Conventional oil produced in Canada in 2004 averaged 1.4 million barrels a day, including offshore, of which we exported 1.6 million bpd to the U.S., which included a million barrels of synthetic crude. Ironically, Canada imports 963,000 barrels of oil a day to bring up its total daily consumption of oil to 1.75 million bpd.

While Canada has traditionally had an abundance of natural gas, total supplies are declining much more rapidly than forecast. Natural gas reserves at the end of 2004 amounted to 56.5 trillion cubic feet (tcf), or just 16 years of domestic supply at current rates of consumption. We produce 17 billion cubic feet (bcf) a day and export 9.7 bcf, more than half our production, leaving 7.3 bcf for domestic use.

Currently, Alberta's and Saskatchewan's conventional oil fields are able to produce around one million barrels a day, while Atlantic Canada production is about 500,000 barrels a day. By 2015, Canada's total conventional production is projected to drop to about 600,000 barrels a day, although Saskatchewan's aging Weyburn and Midale fields may delay that date somewhat with a new technology of injecting carbon dioxide into the fields to increase pumping pressure. If that works well, Leduc and other Alberta fields may also stretch out their longevity.

Western Canada is the largest supplier of natural gas to the biggest consumer in North America. U.S. demand has surged in the past 20 years to 24.6 tcf a year. The National Energy Board predicts this will reach 30 tcf by 2014. In a recent report, the NEB, however, had a much gloomier forecast for natural gas supply. North America consumes nearly a third of world production, but holds only 4% of reserves, most of these in the Western Canadian Sedimentary Basin, which the NEB says has been running flat for some years despite frenetic drilling in Alberta.

Conventional natural gas has peaked because Canada, which boasted just 1% of world reserves, boosted production between 1986 and 2003 to feed domestic growth and help expand the U.S. appetite for natural gas, and thus became the world's No. 2 gas exporter by the late 1990s. More recently, the Canadian Centre for Energy Information reported that, as of 2005, at current rates of extraction, our conventional natural gas reserves are equivalent to fewer than 10 years of demand. Yet, says oil analyst and journalist Andrew Nikiforuk of Calgary, "no federal or provincial government stopped to question the logic of rapidly disposing of a declining non-renewable resource at mostly rock-bottom prices."

Now we are in serious trouble: a natural gas crisis along with an oil crisis. The NEB estimates that nearly 80% of our estimated natural gas en-

dowment remains to be proven offshore or in the High Arctic. As a result, even the ever-optimistic and industry-oriented NEB admits the natural gas situation is "unsettling."

Julian Varley, author of *High Noon for Natural Gas*, says if Canadian politicians were sensible, "they would recognize that this is a cold country. They would cut production and exports and work out depletion rates." Yet Canada still has had no debate about the crisis. If current production declines and demands forecast by the U.S. Energy Information Administration are correct, a continental shortfall of 13 tcf of natural gas per year (about 42% of demand) is imminent.

With conventional oil and gas reserves being rapidly depleted, industry is turning to non-conventional sources. For oil, this means the tar sands, for which, as this report will show, the costs are much higher than conventional oil—in terms of extraction costs, energy needs (natural gas), water, landscape impacts, and climate change emissions. As natural gas reserves dwindle while providing the key fuel for the tar sands expanding energy needs, alternatives are being sought. This includes the Northern gas pipelines, coal, methane, and extracting the gas and hydrogen from the tar sands. These alternatives all have significantly higher environmental and social costs than natural gas—costs to be borne by Albertans and all other Canadians. Additionally, natural gas is a key source for domestic heat and power. As those supplies dwindle, the government is turning to coal as the solution—with obvious additional climate change and environmental implications.

The dwindling supplies of conventional oil and gas in Canada beg serious questions about the high levels of exports going to the U.S. But the implications of the rapid expansion of the tar sands and the consequences for conventional supplies and non-conventional fossil fuels still has not been debated by the public.

NAFTA's Energy Sharing Clause

Two decades ago, deliberate steps were taken to give the U.S. guaranteed access to Canada's oil and gas resources. After the National Energy Program was dismantled, the Conservative government of Brian Mulroney introduced a series of measures, including: the deregulation of oil and gas exports from Canada to the U.S.; the opening of doors for direct investment by U.S. oil corporations in Canada; the removal of the "vital supply safeguards" that required a 25-year domestic supply before oil and gas was to be exported; and the stripping of the National Energy Board of most of its remaining regulatory powers of oversight regarding Canada's energy policies.

The major surrender of Canada's energy resources, however, came in the U.S.-Canada Free Trade Agreement of 1989. In order to get a deal in the final hours of negotiation, the Mulroney government allowed Canada's energy resources to be put on the table. As a result, an energy-sharing pact was reached and incorporated into the FTA, which turned out to be the deal-maker. Later, in 1994, the provisions of this energy pact were "grandfathered," along with the rest of the FTA, into the North American Free Trade Agreement (NAFTA) between the U.S., Canada and Mexico.

Yet Canada, under NAFTA, continues to be locked into increasing oil and natural gas exports to the U.S. The NAFTA rules prohibit the use of tools by governments to regulate energy exports, including export prices or export taxes and export bans, or even export quotas. Article 309, for example, specifically states that "no party may adopt or maintain any prohibition or restriction on the exportation or sale for export of any good destined for the territory of another party." Nor is Canada allowed to collect export taxes on oil and gas shipped to the U.S.

Article 315 and Article 605 of NAFTA are virtually identical, with the latter applying specifically to energy exports. Both limit the right of Canada to halt exports, even during a situation of national scarcity. (*See Appendix 1.*)

To understand the implications of article 605, it is important to understand the significance of the GATT (General Agreement on Tariffs and Trade) articles, which it modifies. NAFTA Article 605 very severely limits the use of Articles XI and XX. *If Canada wishes to conserve energy of any kind, but especially oil and natural gas that is in short supply, we must still continue exporting the same proportion of our total supply as Canada exported during the three previous years.*

Since article 605 has not yet been applied, a hypothetical example given by John Dillon, an energy analyst at Kairos: Canada, an ecumenical coalition of Canadian churches dealing with social justice, explains how it could lead to national shortages in Canada:

Suppose that Canada had produced two million barrels of oil per day over the last three years and exported half to the United States each year, while consuming the other half domestically. Suppose that Canada, facing declining conventional petroleum production, needs to reduce its total oil production 25% to conserve this non-renewable natural resource for future generations and to protect the environment.

In this scenario, total production would decrease to 1.5 million barrels a day. Given that the national population needs 2 million barrels a day, that would leave only 500,000 barrels for export. But under the NAFTA proportional sharing clause, Canada would be forced to export the same proportion of its total supply (production plus imports) that it had exported over the three previous years — which means one-third of the new total supply level, or 833,000 barrels a day!

Canada would be short 333,000 barrels a day of oil for its own use. We would have to import more oil or produce more than was intended under its conservation plan, despite the costs, damage to the environment, and the exhaustion of reserves.

Article 605 also says that Canada cannot impose a higher price on exports through an additional export tax than the price charged for domestic consumption.

Although Mexico won an exemption from this NAFTA article, the cost was high. Mexico had to pay by liberalizing its rules on government purchases, and had to open its petrochemical and electrical industries to foreign investment as well.

The proportional sharing clause is more likely to be applied to natural gas than to oil. With conventional domestic gas reserves equivalent to less than 10 years of total demand, it is time to reinstate a national policy of requiring adequate domestic supplies prior to allowing exports. Reinstating a 15-year surplus test for natural gas would challenge NAFTA Article 605. Ironically, restriction on natural gas exports might have to occur because of provisions in an Alberta law which permits gas to be sold outside the province, either to the U.S. or to other provinces, “only if the gas is surplus to the estimated needs of Alberta’s core consumers (Alberta residential, commercial, and industrial users) calculated as a multiple of 15 times their current demand.”

In other words, even if Canada wanted to cut back on exports of oil and natural gas as non-renewable resources for conservation purposes, we would be compelled under Article 605 to make the same portion of our total production available to the U.S. as was exported over the previous three years. Nor will Article 605 allow Canada to cut back on export commitments of oil and gas in order to ensure equitable access for Canadians in times of short supply or to provide feedstock for Alberta’s petrochemical industries producing

higher value added products — not unless Canada were to guarantee the U.S. the same proportion of total supply as was exported over the previous 36 months.

With this deregulation, Canada’s oil and gas exports to the U.S. have rapidly accelerated. Today, more than 67% of Canada’s oil production is exported to the U.S., compared to 33% in 1985. In terms of natural gas production, 57% goes to the U.S., whereas only 25% was exported two decades ago.

Despite the fact that Canada is an oil-producing nation and that our oil production has increased by 64% since the FTA was signed, we now find ourselves in the unenviable position of importing almost half of all the oil used in this country.

Oil Depletion Fears

The age of fossil fuels is about to end. There is no replacement for them at hand. These facts are poorly understood by the world’s only superpower, the United States, without question the greatest squanderer of fossil fuels. Yet the prospect of a world without oil conjures up a great deal of fear about the future.

The key to understanding what is about to happen to all of us, globally and continentally, lies in the complex concept of *global oil production peak*. A hydrocarbon study group based at Uppsala, Sweden, describes this as the point where we have extracted half of all the recoverable oil that has ever existed in the world — the half that was easiest to get at, the half that was cheapest to pump, the half that was of highest quality and most refinable.

As far back as 1956, American geologist M. King Hubbert predicted the U.S. would face a severe decline in crude oil reserves by the 1970s, despite major improvements in technologies of exploration and extraction. Hubbert, who was also

a researcher for Shell Oil, used a simple bell curve to explain his predictions, displaying the peak at the top of the curve. Despite enduring some ridicule, Hubbert's predictions turned out to be correct. In 1970, U.S. oil production reached its peak at 11.2 million barrels a day. Ever since, U.S. oil production has been falling to the point now where it is less than 6 million barrels a day.

There is some speculation and debate about the exact date when global oil supply will peak, but the best information is sometime before 2008 (one American scientist said, tongue-in-cheek, Thanksgiving 2005). The lack of precision is for several reasons: reported reserves (oil left in the ground) of private sector and nationalized oil companies are routinely overestimated; the "oil age" is relatively brief, historically speaking (50 years); and assumptions use current levels of world petroleum consumption, notwithstanding a hugely expanding world population and the rapid industrialization of countries like China and India. The "peak" will tend to manifest itself during periods of oil market instability, such as we face now: a volatile period of recurring price increases and consequential recessions dampening demand and price. The peak will only become obvious to us all when terminal decline begins.

To come to grips with these dynamics of peak and depletion, it is worth considering the following factors:

- Since the mid-19th century, the world has burned through roughly one trillion barrels of oil, half the planet's original endowment.
- This represents the easiest-to-get, highest-quality liquids. The remaining half includes the hardest and most expensive oil to get, the lowest quality, the semi-solids and solids.

- Worldwide discovery of oil peaked in 1964 and has followed a firm downward trend ever since.
- The world is now using 27 billion barrels of oil a year (82.5 million bpd), meaning that, if every drop of the world's known remaining conventional reserves could be extracted, even at current prices — which is extremely unlikely — there are about 37 years' supply of conventional fuel left.
- After peak, world demand will exceed world capacity to produce oil, and depletion will proceed at 2-to-4% a year.
- The ratio of energy expended in getting oil out of the ground to energy produced by that oil in the U.S. oil industry has fallen from 28:1 in 1916 to 2:1 in 2004.

Meanwhile, reports indicate that global oil demand for 2005 is again on the rise. In its June 2005 monthly oil marketing report, the International Energy Agency said that world demand for oil was running at 82.5 million barrels a day, 750,000 more than previously forecast. The IEA report went on to say that demand growth in 2005 was proceeding at a faster pace than it had in the past 24 years. The surge in oil consumption was attributed to both the U.S. economic recovery and to the industrial boom in China. The IEA predicts that, in 2006, world demand for oil will rise another 1.8 million barrels to 84 million barrels a day. Uncertainties about oil reserves, says the IEA, continue to put pressures on the market.

Yet the prospect of a world peak in oil production is seldom discussed publicly. In fact, the oil company spin-doctors do their best to curtail public discussion about oil depletion in order to prevent the unleashing of a wave of public fear. Colin Campbell, an oil geologist who worked for many of the leading global oil companies, put it this way:

“The one they don’t like to talk about is depletion. That smells in the investment community, who are always looking for good news and the image, and it’s not very easy for them to explain all these rather complicated things, nor indeed do they have any motive or responsibility to do so. It’s not their job to look after the future of the world.... Their directors are in the business to make money for them, so they shy away from the subject,

they don’t like to talk about it. But they themselves understand the situation as clearly as I do. If they had such great faith in growing production for years to come, why did they not invest in new refineries? There have been no new refineries built in the United States for more than 10 years. Why are they always merging? They merge because there is not room for them all. It’s a contracting business....’

2 Energy Satellite

Although Canada has long been a resource hinterland for the U.S. economy, it has recently taken on a new strategic importance as an energy satellite. In 2002, the authoritative *Oil and Gas Journal* listed Canada's conventional oil reserves at 4.8 billion barrels. A year later, the *Journal* included the tar sands reserve data and showed Canada with almost 180 billion barrels and a world ranking of No. 2, just behind Saudi Arabia.

For Washington, this was certainly welcome news at a time when U.S. foreign supply sources were becoming increasingly vulnerable. The Saudi regime is unstable and fading. Iraq, once in the No. 2 export spot, is hemorrhaging oil into its soil as pumping stations, pipelines, and shipping facilities are sabotaged by resistance groups, and Russia, Central Asia, Sudan, Nigeria, Angola, and other African states have well-publicized political and governance problems. Venezuela's President Hugo Chavez has publicly mused about cutting off the U.S. supply or selling it to poor Americans at below-market prices. He has also fired many American-leaning industry executives and engineers, some of whom have ended up in northern Alberta.

By contrast, Alberta is almost absurdly stable. In 70 years its government has changed once, moving from Social Credit to Conservative. "There is no more secure supplier to the United States than Canada," says a report by the Centre for Strategic

and International Studies in Washington. That's important to a country that has 5% of the world's population and uses 25% of its oil. Mark Anielski agrees: "The oil sands are the most strategically important oil source for the U.S. Oil is no longer simply a commodity for the Americans, but a national security issue."

So, too, does Cheney: "Estimates of Canada's recoverable heavy oil reserves are substantial... Their continued development can be a pillar of sustainable North American energy and economic security."

Athabasca Tar Sands Reserve

Canada's massive Athabasca tar sands are composed of three broad synthetic oil fields 600 kilometres north of the U.S. border in Alberta. These tar sands are the largest hydrocarbon deposit in the world: three separate fields (Athabasca, Cold Lake, and Peace River, totalling 77,000 sq km) that are estimated to hold at between 1.75 and 2.5 trillion barrels of heavy crude.

Not all of this oil, however, is recoverable. Right now, between 175 and 200 billion barrels of oil are listed as recoverable under current economic and technological conditions, while CAPP estimates that some 315 billion barrels of crude oil are considered potentially recoverable. And this is why Canada — more specifically Alberta — now

occupies a special place for the U.S. in terms of energy security.

Despite thumbs-up from Washington and forecasts by the *Oil and Gas Journal*, the strategic importance of the Athabasca tar sands continues to go almost unnoticed. Indeed, one of the best-kept secrets in geo-politics today may well be that Canada — not Saudi Arabia — is now the biggest single foreign supplier of oil to the U.S. Canada's tar sands could supply the U.S. and its industrial and military needs with a safe and reliable supply of oil for many years to come.

Mike Ashar, head of Suncor Energy Inc.'s U.S. operations in Denver, expresses astonishment and even some shock that so few of his neighbours and business colleagues know that Canada is the main supplier of their oil and gasoline. "Read any of the major business and industry magazines and the oil stories are all about plumbing ever deeper into the Middle East, Africa, Iran, and Central Asia, while Canada is quietly ignored. Perhaps we like it that way, or perhaps synthetic oil is still dismissed by the experts as too costly, too environmentally destructive, and too energy-intensive."

Recently, the prestigious British business magazine *The Economist* devoted a 14-page special section to the world's oil crisis and, in particular U.S. shortages, without once mentioning Canada's tar sands. Yet, as oil extraction from tar sands development expands, prompted by US\$50-\$60-a-barrel prices, exports will swell further, adding as much as two or even three million barrels every day to the tide of oil flowing south. Before long, Canada will be supplying one-fifth of the U.S.'s overall oil consumption. Today, most conventional Canadian oil from the Prairies and the synthetic crude from Alberta ends up in the U.S. Midwest, its traditional market for refining. These aged refineries are handling as much Canadian crude as they can. They are also set up to handle only certain kinds of crude. So the industry is pushing further southwest, with numerous pipe-

line proposals springing up for shipments of tar sands oil to Washington State and California.

Mega-Oil Projects

One of the oldest and largest mega-oil developments in the Athabasca tar sands today is the Syncrude Project. It's composed of a joint venture of seven of the biggest names in Canadian oil: Imperial Oil, Conoco-Phillips, Canadian Oil Sands Ltd., Petro-Canada, AEC Oil Sands Partnership, Mocal Energy, Murphy Oil, and Nexen. The largest share is held by Canadian Oil Sands at 35%, followed by PetroCan at 12%. The Syncrude Project operates at Mildred Lake and four Aurora sites on both sides of the Athabasca River, mining tar sands in enormous pits up to 7km wide and as deep as 80 metres, which collectively drag out 155 million tonnes of bitumen-soaked sand and clay and water a year.

What comes out the other end is what Syncrude calls SSB — Syncrude Sweet Blend. When it's pumped into Alberta's maze of pipelines, 60% goes to American refineries, with the remainder staying in Canada. It takes two tonnes of tar sand (with significant amounts of water and energy) to make one barrel of SSB (one barrel of oil contains 159 litres of synthetic oil) along with three barrels of water. Syncrude alone moves an average of a million tonnes of tar sand a day. It has also removed huge numbers of boreal forest trees, and massive mounds of muskeg and earth to get down to the rich dark stuff.

More recently, Syncrude has been eclipsed by other mega-tar-sands projects like Suncor and Albion. Currently, the daily production from all projects amounts to one million barrels of crude oil a day. By 2020, this output will have tripled to 3 million barrels a day, 2 million of which would be destined for the U.S., if current production and distribution formulas prevail. In 2004, Canada provided 16% of U.S. oil imports, but, with the

tar sands, this percentage is expected to climb to well over 20%. The timing, size, and scope of the first commercial tar sands facility were directly influenced by the demands of the U.S. market. For the U.S. oil industry, however, this rate of production is not happening fast enough in the northern Alberta bush. Recently, U.S. oil giants like ExxonMobil, Chevron, and ConocoPhillips, along with Royal Dutch/Shell, have been moving into the Athabasca tar sands with their own investments.

In October 2005, the Calgary-based Canadian Energy Research Project, which describes itself as independent and non-profit, issued a report estimating the value of the tar sands as US\$1.4 trillion, based on the modest prices of US\$40-a-barrel average between 2000 and 2020. The same day the report was released (Sept. 30, 2005), West Texas intermediate crude traded at US\$67-a-barrel.

Tar Sands Extraction Processes

In order to extract and produce crude oil from tar sands, there are two different processes, depending on how far beneath the surface the resource lies: 1) open-pit mining near the surface, and 2) “in situ” drilling for most of the bitumen which is far below. Both are elaborate and expensive processes that are energy- and water-intensive as well as environmentally damaging, as one oil industry commentator described it:

Tar sand — the industry likes to call it oil sand — is part bitumen, part clay and water, which in its raw state resembles thick asphalt impregnated with sand grains. It needs upgrading to make it transportable and refinable. In its upgraded form, the bitumen is a mixture of naphtha and light and heavy gas oils combined to produce heavy crude. Tar sand is about 4% water which surrounds each grain of sand, keeping it separate from the oil.

Without the water envelope, the oil and sand could not be separated.

The surface mining of the tar sands has so far involved a ghastly attack on Alberta’s northern forests, lakes, and rivers. As the trees and muskeg are stripped away along with the top layers of earth, the espresso-coloured sands are exposed. The gigantic trucks rumble by, all controlled by computers, sounding like a fleet of Boeing 747s taking off. To get up to the two-storey cab perched above the diesel engine of a 400-tonne Caterpillar 797, built in Peoria, Illinois, the driver must climb a narrow ladder and plan to stay there for 12 hours, even during the four 20-minute breaks a shift. Each of its 39 trucks costs US\$6 million and lasts about five years. The four tires are each 3.42 metres high, and one costs US\$100,000 and lasts about a year.

Everything about tar sands development is about gigantism. The impacts of this extraction process will be intensified under the Alberta government’s new tar sands strategy which declares the tar sands to be a coordinated zone within which mining has the *highest* priority. This is a shift from prior policies that placed the tar sands on the same level as other uses such as wildlife habitat, recreation, and forestry. The new policy in fact stipulates specifically that wildlife habitat in the zone will not be protected before or during tar sands mining.

To get at the deeper levels far below the mining operations where about 90% of the bitumen lies, producers use a different and even more controversial method than mining, called “in situ” production in the language of the trade. This involves separating the oil from the sand deep underground, using steam pumped down one drill-pipe to the bitumen to melt the heavy, black goo which is soaked for some time and then re-pumped to the surface via a second drill-pipe. This process requires copious quantities of natural gas.

Tar doesn't come out of the ground the way oil does. The mining operations require massive amounts of water, and generate vast quantities of polluted groundwater. Both mining and "in situ" take huge amounts of energy, estimated at 20% of Canada's current total natural gas production. In the long run, it might well not be worth expending energy from natural gas to make energy from the synthetic crude. It is the old EROEI (energy returned over energy invested) ratio. It applies to all categories of fuel and every procedure for getting and using them. For example, if oil from tar sands, instead of natural gas, were used to produce more tar sands oil, the return would be three barrels of oil for every two consumed.

It takes more than 1,000 cubic feet of natural gas to convert a barrel of bitumen into thick crude that is light enough to transport and refine. (The average Canadian home with natural gas heat uses about 9,000 cubic feet of gas a month in the winter.) Natural gas prices are closely tied to the price of conventional oil on a BTU (British Thermal Unit) basis, meaning that, when the price of oil zooms up, the price of natural gas rises accordingly.

Fuelled by Natural Gas

While it is controversial, the Alberta government has approved the "in situ" technology, but critics question the use of a clean high-quality fuel to produce a low-quality fuel.

"It's crazy," says Tom Adams of Energy Probe. He notes that "in situ" technology, which burns natural gas to make oil that will also then be burned, releases vast quantities of carbon dioxide, placing the onus squarely on government to regulate this technology. Energy Probe says that, "if we ever get serious about carbon emission control, the tar sands are in deep trouble."

Herein lies one of the greatest contradictions of Alberta's mega-tar-sands development. Al-

though the tar sands are a potentially long-term future source of fossil fuels, they are also a voracious consumer of energy in the form of natural gas. Natural gas is a wonderful fuel; it comes out of the earth easily under its own pressure. It is a clean fuel, although it does give off carbon dioxide, the major "greenhouse gas". Natural gas is easily transported through a web of pipeline networks throughout North America. According to Environment Canada, it heats about 50% of homes in a cold country like Canada and is the raw material for a wide array of petrochemicals, fertilizers, pharmaceuticals, and plastics. Since the OPEC oil embargo of 1973, manufacturers and domestic users have been switching from oil to natural gas, which then began inexorably to move towards its own peak.

Now this wonderful fuel is being used to generate oil from the tar sands in order to maintain Canada's energy commitments to the U.S. The gas is urgent. Brewing up a barrel of synthetic crude requires between 1,000 and 2,000 cubic feet of natural gas, representing a net energy subsidy of 33%. It also produces two-and-a-half times more greenhouse gas than pumping conventional oil. What's more, conventional supplies of natural gas have not only peaked but are in sharp decline. Yet few Albertan or Canadian politicians have sounded the alarm. It is quite possible the entire contents of the Mackenzie Gas Project for 20 years could flow directly to the tar sands, according to a speech in the spring of 2005 at Harvard University by none other than Premier Ralph Klein. The only new moves to meet this crisis are to promote questionable coal-bed methane production or bring liquefied natural gas (LNG) by tanker from the Middle East, both of which are expensive and dangerous.

The frontiers are our only hope, and, using the most optimistic forecasts by the NEB, this will take another 10 years minimum to bring on-stream, even if it doesn't all end up in Fort Mc-

Murray. Some tar sands operations are experimenting with extracting the necessary gas and hydrogen directly from the bitumen, possibly eliminating the need for conventional natural gas. This has not had much success to date, as the process is much more costly and produces significantly more greenhouse gases than natural gas. There is some speculation around building a pipeline to transport the carbon emissions from the tar sands to conventional oil wells, where it can be injected into dwindling underground reserves to maximize the extraction from those wells.

The NEB, a toothless regulator of Canada's energy industry, believes higher prices will solve our natural gas woes by encouraging fuel-switching and conservation. Yet, as Houston-based Matt Simmons, the world's foremost energy banker, has noted, "free markets and energy security do not mix." Deregulation in the 1980s reduced supply options in Canada and only temporarily reduced costs. For the tar sands, pricing is not a solution because the natural gas price follows the price of oil.

Coal-Bed Methane

The oil industry's dream of a new moneymaker may lie deep beneath Alberta, British Columbia, and Nova Scotia, wrapped up in the huge ancient coal-beds ready to be tapped: coal-bed methane (CBM)—a relatively new source of non-conventional natural gas which has some Alberta developers excited. Though extracting CBM is a relatively new idea in Canada, there is a 20-year history in the U.S. and firms are lining up in Alberta to take a chance, as natural gas reserves wane. How much of a chance is still unclear. Canada has the 12th largest reserves of coal in the world, but no one knows with any degree of accuracy how much gas there is or how much of it is recoverable.

Coal-bed methane is a natural gas found in most coal deposits and created over the millions of years it takes to convert plant material into coal. The methane in a coal seam is not stored as a compressed gas, but is absorbed chemically into the coal and held in place by the overlying rock and water pressure.

While CBM can be extracted using conventional natural gas technology, methane can't be extracted until the water that permeates coal-beds is pumped off because it traps the gas in the coal. This de-watering lowers coal-bed pressure and is like taking the cork out of a bottle of champagne: the bubbles (methane) come to the top. De-watering often means dumping 12 to 15 gallons of water a minute from each well—a process that must continue for a year, on average, before maximum production kicks in.

In the United States, aquifer depletion, contamination, and wastewater problems have made the practice of removing methane from ancient coal seams a controversial and emotion-laden issue. By the middle of 2005, Canada's CBM industry had drilled about 3,000 wells in farm country northeast of Calgary, but, according to critics, its political and economic future remains uncertain.

Despite 20 years of conflict-laden pumping, the U.S. has yet to coax more than 8.5% of its natural gas from coal seams. Yet Canada's National Energy Board predicted in 2005 that the industry could somehow manage to pump between 13% and 23% of coal-bed methane by 2025. The NEB (which prefers to call CBM "Natural Gas from Coal, or NGC) predicts in a recent paper that intensive drilling will be done in Central Alberta between Calgary and Edmonton, with up to 50,000 wells, but, according to experts like geologist Dave Hughes from Natural Resources Canada in Calgary, CBM will not make up for conventional natural gas declines.

“The resource estimates and the gas recoverability rates are all over the place,” says Rob Woronuk of Calgary, senior analyst of the Canadian Gas Potential Committee. According to the committee, estimates of the CBM gas resource nationwide could range anywhere between 187 trillion cubic feet (tcf) to about 460 tcf. The Alberta Energy and Utilities Board estimates Alberta’s reserves at 135 tcf to 410 tcf. Only 20 tcf of CBM will supply U.S. gas needs for a year. “The real question is not how large the resources are, but how much can be recovered, and we just haven’t had enough experience to determine that yet,” says Woronuk.

Northern Pipeline Corridor

Petr Cizek, a Yellowknife-based geographer and environmentalist, recounts staring for months at the route of the Mackenzie Valley natural gas pipeline, which may be built by a consortium called the Mackenzie Gas Project (MGP), before realizing what he calls the real purpose of the pipeline corridor:

“It starts quite clearly at Inuvik in the Mackenzie Delta, runs south 1,400 km, and then it ends eight km inside the muskeg of north-west Alberta. Why does it end there? And where does the rest of the \$7 billion pipeline go? There’s between 1.2 and 1.9 billion cubic feet of natural gas going to be piling in every day at a tiny station at a place called Bootis. What an unusual location for a pipeline terminus.” Then Cizek starts to laugh: “A guy I knew from Calgary says, ‘Can’t you figure it out? All that gas is going straight to the tar sands in Fort McMurray.’ I was puzzled. I knew the gas was going into the Alberta grid and that some of it might be used at the tar sands. The Calgarian, who was up here negotiating right-of-way access deals on the Arctic coast, says, ‘Look, they’re gonna ram a new pipe from Bootis straight to McMurray, where the tar sands will soak up all that Arctic gas — easy.’”

By 2015, the natural gas needed to fuel this “vast petroleum brewery,” as some call the tar sands, will triple to more than 1.5 billion cubic feet (bcf) a day. Happily for them, the MGP, if its plans proceed, will be ready to meet that need because members of the Mackenzie Gas Producers Group happen to be majority owners of most of the tar sands ventures. TransCanada Pipelines has said its existing Alberta pipeline grid does not have the capacity to handle another 1.2 to 1.9 billion cubic feet a day, hence the need for a new lateral pipeline from the Alberta-NWT border to Fort McMurray. Fortunately, TransCanada has also obtained an option to buy into the MGP through an \$80 million loan it made so the Aboriginal Pipeline Group (APG) could buy into the MGP consortium, giving it the First Nations flavour it needs.

The MGP is being developed by:

- Imperial Oil Resources Ventures Ltd, a subsidiary of Imperial Oil Ltd., which will construct and operate the gathering system in the Mackenzie delta; it also operates the Taglu gas field there;
- the Aboriginal Pipeline Group Ltd. (APG), which was formed by representatives of the Inuvialuit people of the Mackenzie Delta and Arctic coast, the Sahtu nation in the Great Bear lake region, and the Gwich’in nation to represent the ownership interest of the Aboriginal Peoples of the NWT in the pipeline; APG, with its loan from TransCanada as startup money, is seeking to raise a billion dollars to take on one-third ownership of the pipeline and locate a third of the gas;
- ConocoPhillips Canada (North) Ltd. (Conoco Phillips) and ExxonMobil Canada Properties (Exxon Mobil), which jointly

hold the Parsons Lake gas field which is operated by ConocoPhillips;

- Shell Canada Ltd., which holds the Niglingtak gas field that Shell also operates.

Except for APG, all of the consortium members have large holdings in the tar sands. The three Mackenzie Delta fields (Taglu, Parsons Lake, and Niglingtak) are called “anchor fields” and are geographically located close to each other north of Inuvik but do not have enough gas (roughly 8 million cubic feet a day) to keep the pipeline operating at capacity for its projected 25-year lifetime. Other sources of gas are being explored and are hoped to come on line from the Mackenzie Delta, the Beaufort Sea, and Colville Lake in the Great Bear Lake region of the NWT.

Nellie Cournoyea, the capable and outspoken Inuvialuit CEO of the Inuvialuit Regional Corp., and member of the APG, says there are 64 tcf reserves of natural gas in the Mackenzie Beaufort Basin alone, but the industry is much more cautious. The industry’s gas exploration estimates range from 24–36 tcf of natural gas in the Beaufort Sea, Mackenzie Delta, the northern tundra, and high up into Melville Island. Yet the U.S. expects to increase Canadian gas imports from the current 3.5 tcf per year to 5.8 tcf per year by 2015 (<http://www.eia.doe.gov/oiaf/aeo/gas.html>, 11/07.2005). All of this gives exporters and pipeline proponents the shivers.

Meanwhile, the U.S. is predicting that its overall demand for natural gas will grow from 25 tcf to around 34 tcf in the next decade. That is why the continental energy policy is so urgent to them and why new pipeline capacity is required from Canada’s North, through to much of the U.S. Now a consortium of Alaska North Slope producers — British Petroleum, ExxonMobil and ConocoPhillips — are planning a huge pipeline (much like the one Mr. Justice Thomas Berger turned down 30 years ago), that would cost at least

twice as much as MGP, carry three to four times as much gas, and run 5,700 km from the North Slope along the Alaska Highway through the Yukon and into Alberta. Estimated cost: US\$20 billion. There is also the possibility of their building a connection to Mackenzie Delta gas called the Dempster Lateral running along the Yukon-NWT highway bearing that name.

Industry experts are almost unanimous that the North American markets, especially with the voracious tar sands appetite for natural gas, can handle separate pipelines. In fact, they say the gas is needed now. But none of the projects has been approved by its regulatory agencies. Analysts don’t see the MGP coming on-stream until 2010 and the Alaska project much later, around 2015. Shortages of steel and skilled labour preclude the pipelines being built simultaneously. These would be the largest and most expensive energy projects, except for the tar sands, in North America. And both projects are stalled as of mid-2005, for a variety of different reasons, including regulatory hearings.

Continental Energy Corridor

All of this sets the stage for a continental energy corridor primarily designed to serve the energy security agenda in Washington and Houston. According to industry observer Larry Pratt, author of *Pipelines and Pipe Dreams: Energy and Continental Security*, the drive for deeper integration of Canadian and American markets came from a group of mainly independent producers. They supported a new all-export pipeline called Alliance, which ran from northern B.C. and Alberta to the Chicago hub carrying 1.325 billion cubic feet a day into the American heartland. It was controlled by a group of Canadian and American pipeline companies and went into service in 2000. Further deepening of the integration came in 2001 when the Maritimes and Northeast pipe-

line carried Nova Scotia offshore gas to New England. By 2003, the U.S. was importing almost 4 tcf per year, all but a fraction of which came from Canadian pipelines.

Since January 2003, the Canadian Council of Chief Executives (CCCE), which represents the 150 largest corporations in Canada, has been vigorously promoting a new continental economic deal with the U.S. that would include a "resource security pact." Called the North American Security and Prosperity Initiative (NASPI), the CCCE project calls for a binding agreement that would guarantee a constant flow of "oil, natural gas, electricity, coal, uranium, primary metals, forest products and agriculture" to markets within each country. "The security of our countries," asserts the CCCE, "depends on the assurance of uninterrupted flows among us."

In part, this demand is already met by the "proportional sharing clause" in NAFTA. Now the CCCE says it is time to go beyond this to create "a zone of resource confidence in North America." This would ensure "unrestricted flows of... oil, natural gas, electricity, minerals, agricultural products and construction materials" at a moment when the United States faces the prospect of "disruptions in global supply chains."

Meanwhile, officials in the Department of Foreign Affairs and International Trade have been advocating that Canada, the U.S. and Mexico should "examine and address the regulatory environment for trade in oil, gas and electricity to eliminate all impediments to North American energy security." The department's priorities, according to a leaked memo, also include plans to "expedite a review of energy infrastructure, including pipeline capacity." Since 2001, a North American Energy Working group composed of government officials from Canada, Mexico and the U.S. has been examining ways of eliminating "regulatory barriers" to continental energy production in all three countries. Recognizing slow progress on

this front, the three governments established a "Regulator's Expert Group" in June 2005 to speed up the harmonization of regulations and standards for energy production.

In March 2005, the Task Force on the Future of North America, co-chaired by former Canadian Deputy Prime Minister John Manley, along with representatives from Mexico and the U.S., echoed these developments in a report entitled "Creating a North American Community" released in Washington. In keeping with the CCCE's recommendations, the task force — of which Thomas d'Aquino, CEO of CCCE, was a vice-chair — called for the creation of a North American Energy Strategy in the context of a larger continental resource strategy. The task force also focused attention on the "vast oil sands" development in Alberta, urging that action be taken to overcome the "regulatory approval processes that can slow down both resource and infrastructure development significantly."

In turn, all of these energy security strategies were given the highest stamp of approval on March 19, 2005, when the leaders of the three countries — George W. Bush, Paul Martin, and Vicente Fox — held their North American Summit in Waco, Texas. In their summit communiqué, they promised to "strengthen the North American energy market" and "strengthen and update energy regulation." Reporting to the leaders, senior government officials from the three countries declared they were "taking action to create a policy environment that will promote the sustainable supply of energy in North America," and that their plans would involve "joint cooperation in the areas of regulation, oil sands production, and nuclear energy."

Despite these trend lines towards deeper continental energy integration, Pratt argues that there are countervailing forces that will limit the degree of continentalism. "No single oil-producing state," says Pratt, "can satisfy the American

appetite for petroleum. Canada will remain an important energy supplier to the U.S. while it has its resources...” But, it is much more strategic for the U.S. “to supplement domestic supplies and government-owned reserves with a globalization strategy in which oil and LNG imports would be widely diversified over a range of relatively secure

non-OPEC sources...” As Americans view the future,” says Pratt, “Canada would be one of 10 to 15 oil exporters serving the U.S. market. Diversifying supply would have the effect of lessening dependence on an unstable Middle East and weakening the power of OPEC as a whole.”

3 Ecological Blowout

The “greening” of the tar sands is already well under way. The companies point to the innovations they have made, unprodded by regulators and environmentalists. Suncor shows all visitors, with pride, the narrow wooded corridor that has been preserved on one of their mine sites as a highway for animal movements, and their spin-doctors list sightings of fox, wolf, moose and deer, all marked on a huge map. Visitors don’t see the animals. Their public relations team brags about the three million trees they have planted, and their wind farms in southern Alberta.

Syncrude, in an effort to show its green side, takes investors, journalists, oil experts, and tourists to a reclaimed open pit mine — a small and old one — which has been fenced, sodded, trees planted, with a small herd of bison penned in close to the viewing area for picture-taking tourists. It looks like a park for a southern city stuck in the middle of the boreal forest. Surreal, but earnest. Do not feed the animals.

Jim Carter, the long-time CEO of Syncrude, points to reductions in sulphur dioxide emissions, energy outlay, and the size of the tailing ponds. “Production is going up at a steep rate, and pollution is going up at a less steep rate,” says Chris Severson-Baker of the Pembina Institute, “but it is still going up. Oil companies are trying to paint themselves green, but it all depends on how economic it is.”

Dirtiest Oil Production

At Suncor’s Millennium tar sands project, the unmistakable stench of black gold drifts up from the ground and hangs thick in the air. It’s the smell of raw power, and everywhere is the rainbow sheen of oil. It is, without question, the dirtiest form of oil.

When explorer Alexander Mackenzie trekked through the Athabasca region over two centuries ago, he commented on the bituminous fountains he encountered in 1788: “At about 24 miles from the fork (of the Athabasca and Clearwater rivers) are some bituminous fountains into which a pole of 20 feet long may be inserted without the least resistance... It smells like that of a sea of coal.”

Unlike conventional oil, which is pumped out of the ground or offshore, oil from the tar sands, as we have seen, is mined. The industry calls them the “oil” sands, not the tar sands. But, in its raw state, it really looks like thick asphalt tar heavily impregnated with grains of sand.

The two processes for mining and separating out this bitumen — open pit and “in situ” — have been described earlier as having serious impacts on water, landscape, and air. Both processes have major implications for the environment. One industry observer described the open pit process of oil production as follows:

Tar sand comprises bitumen (petroleum that is high molecular weight hydrocarbons), silica sand, clay minerals and water. Bitumen is recovered from open pit mines by various water-based extraction processes something like washing dishes in a dishwasher. The oil sand is slurried by steam, hot water and caustic soda in large rotating drums. The process separates aerated bitumen from the other tar sand components in gravity settling separation vessels and the bitumen floats to the surface where it is skimmed off although it is much thicker than conventional crude. The sand, water and other residuals are piped off to tailing ponds because organic compounds released during processing are toxic.

In the “in situ” process, steam is injected through pipes drilled into the deep deposits, “melting” the heavy, thick black bitumen to reduce its viscosity so that it can be pumped back up to the surface through a separate drilled pipe. In other words, this type of extraction requires a traditional oil well working in tandem with a steam injection machine. Once this asphalt-like substance has been steamed and mixed with water, then it can be pumped to the surface to be converted into synthetic crude oil for transport and further refining. As indicated above, this process is not only highly energy-intensive for the steam creation, but it is also water-intensive.

Greenhouse Gas Emissions

It is a well-known fact that the energy sector is the largest producer of greenhouse gases in Canada. Moreover, the tar sands themselves are “the largest terrestrial development in North America, affecting adjacent provinces and downstream areas,” says Tim Howard of the Sierra Legal Defence Fund. To proceed with a tar sands project

requires a provincial environmental assessment and, depending on what is being affected, possibly a federal assessment as well. “But the responsible authority can set the scope of the assessment,” says Howard, adding that the federal government “hasn’t stepped up to the plate on becoming co-regulators.”

For every barrel of synthetic crude oil that is produced from the tar sands, the National Energy Board estimates that 125 kilograms of carbon dioxide are released into the atmosphere. Given the production plans now under way, it is expected that the Athabasca tar sands will make the largest single contribution to Canada’s greenhouse gas emissions by 2010. Already, a recent Suzuki Foundation report found that Alberta has surpassed all other provinces in terms of industrial emissions, passing Ontario for the first time. Within the top five polluters were three tar sands operations.

According to a report commissioned by the Natural Resources Defence Council and the Sierra Club of Canada in 2002: “If the fossil fuel industry is allowed to proceed with its current plans, [greenhouse gas] emissions in Canada will grow to 827 million tonnes in 2010. This would be 44% beyond what Canada is permitted under the Kyoto Protocol and a far cry from the 60-to-80% reduction that scientists say is essential to stabilizing the climate.” Not only are there the direct emission related to the extraction processes, but the use of dwindling conventional natural gas supplies to fire the tar sands extraction is hastening the return to coal for domestic heating and power generation. While other provinces are winding down coal use, Alberta is ramping it up.

Two weeks before the Kyoto Protocol became law, Canadian environmentalists charged that federal “subsidies” to tar sands plants were among the biggest of all Canadian industries. The Alberta-based Pembina Institute for Appropriate Development report, released Jan 31, 2005, cites the Canadian Development Expense (CDE), the Ca-

nadian Exploration Expense (CEE) — the resource allowance and accelerated capital cost allowance for tar sands — as major contributors to \$1.45 billion in federal subsidies. To ensure compliance with Canada's Kyoto commitments, Ottawa should, if anything, be tightening requirements, the report said, beginning with a comprehensive review of all federal subsidies to the energy sector, prior to eliminating them.

The debate over Kyoto in Canada in the fall of 2002 was largely orchestrated by Alberta and the oil and gas industry. Premier Ralph Klein called it “the goofiest, most devastating thing that was ever conceived.” The oil industry said investment would dry up if Canada signed on, but then Prime Minister Jean Chretien [and the public] disagreed and in late 2002 ratified the treaty, helping at the last minute to keep the protocol alive. Klein told *The Globe and Mail* afterwards that he didn't care because enough compromises had been made to ensure “there is no peril to the oil sands.”

As rhetorical debates about the merits of Kyoto intensified after Chretien's announcement, business leaders and right-wing political commentators drew comparisons between Kyoto and the reviled National Energy Program (NEP).

The oil industry's apologists alleged that both Kyoto and the NEP isolated and marginalized the industry, and insisted that oil and gas were synonymous to the national interest and priorities. The industry knew, when Canada first agreed to Kyoto's provisions, that five years would elapse before ratification of the protocol, but did little to co-operate except to obfuscate and threaten. The oil industry and Alberta simply argued that Kyoto would ruin the economy (meaning their economy) and that new technologies would reduce the environmental footprint of the tar sands projects. The industry also ignored polls showing that most Canadians, including Albertans, favoured ratifying Kyoto and was justifiably ac-

cused of “scare-mongering” about an impending “investment chill.”

The two sides battled on until late in 2002, when the industry reluctantly agreed to work with the federal government on global warming. The Canadian Association of Petroleum Producers (CAPP) agreed that declining conventional reserves would increase the development of the tar sands, especially after the Sept. 11, 2001 terrorist events in the U.S. made them a secure and dependable energy source and hence more carbon dioxide emissions would come from the Athabasca projects.

Water Pollution and Depletion

The tar sands development has already had a huge impact on freshwater pollution and water depletion. Water is a huge issue. It takes more than three barrels of water, on average, to process one barrel of synthetic oil. Syncrude claims it recycles about 75% of the water it uses, but it still took 31 million cubic metres of water from the Athabasca River in 2004, and Suncor sucked up 45.5 billion, averaging 6.2 barrels of water per barrel of oil. The water needs for tar sands extraction will only intensify if coal-bed methane were to become a source of fuel to replace natural gas. There are currently no accurate inventories of the groundwater, nor have the potential impacts of the coal-bed methane extraction process on groundwater sources been accurately explored.

Already in the tar sands, Syncrude's tailings ponds are bigger and more plentiful than the natural lakes in the area: vast holding tanks, some of them up to 15 sq km, where all the residual hydrocarbons and other chemical byproducts slowly settle. No one knows where they go after that, or what happens if the earthen dykes are breached, or what happens when Syncrude leaves.

Oil and water *do* mix, contrary to the old saying — at least at the tar sands — and water comes

out second best, even in drought-prone Alberta. It's not new. For many decades, the oilpatch has guzzled billions of litres of fresh water to lubricate conventional oilfields, and some Albertans have expressed concerns about the state of both surface and groundwater in the province.

With all the projects coming on stream, petroleum producers in the Fort McMurray areas will require an additional 175 million litres of water daily over the life of these projects. In 2004, the major players — Suncor, Syncrude and Shell — had 138 billion litres allocated to them for a year. Existing water allocations use 5% of the Athabasca River's flow, but a water policy analyst with the Pembina Institute, Mary Griffiths, says that could increase to 10% with the new expansions.

"We're going to need water resources long after the oil resources are gone," she says. "We have experienced drought in Alberta over a number of years, not just in the southern parts of the province, but in northern Alberta as well. This is climate change. We could be experiencing far more drought in the future, so we need to ensure all our allocations of water are sustainable."

Northern Alberta rivers are shrinking. The summer flows are down by 35–40% on the Peace, Slave, and Athabasca rivers. One of Canada's foremost water experts, David Schindler, warns that the major river systems across the food-producing Prairies are drying up. During the last century (between 1910 and 2002), Schindler's studies show that the South Saskatchewan River has declined 80%. The Old Man and Peace Rivers are down 40%, while the Athabasca River has dropped by 30%. At the same time, several lakes have dried up, including Lake Maglore near Grand Prairie, Alberta. Already, the glacier that feeds the Bow River in Alberta is melting so quickly that there may be no water left in it 50 years from now. Schindler is Killam Memorial Professor of Ecology at the University of Alberta, whose research includes special reference to boreal, alpine, and

sub-alpine, and Arctic or sub-Arctic lakes and watersheds.

The oil companies claim they have made advances in recycling some of the freshwater they use, but this claim does not impress long-time water ecologist Ellie Prepas, until recently at the University of Alberta: "Even if a company claimed to recycle all but 1% of the water, the amount lost would quickly add up to billions of litres — and no one is anywhere near that." It is the cumulative effect that Albertans should be concerned about, she warns.

Permafrost Damage

For the far North, the construction of the MGP pipeline, which is expected to fuel the synthetic oil extraction process of the Athabasca tar sands, the major environmental threats are to permafrost and fragile ecosystems. On its 1,400-km meandering journey south down the Mackenzie Valley to tap the three massive natural gas fields discovered 30 years ago in the Delta, the pipeline corridor will pass through hundreds of kilometres of hummocky moraine, bog, fen, peat, and permafrost, not to mention dozens of stream and river crossings. As well, there are the Aboriginal lands, rare plants, 61 important wildlife species such as caribou, bear, moose, migratory birds, and many different fish. The corridor will be about a kilometre wide, and the pipe-laying mechanism bores through the bush like mechanical tree farmers leaving behind a close-cut trench for the buried pipeline.

In his landmark report on the original Mackenzie Valley pipeline 30 years ago, Judge Berger highlighted the environmental impact of the pipeline on fragile permafrost. "Thermal regimes" are known with certainty to introduce their own temperature influences. Ideally, to minimize this problem, the pipeline temperature should be set at the same temperature as the soil. In continu-

ous permafrost, for instance, the pipeline needs to be operated at below-freezing temperatures to prevent melting the surrounding permafrost. The gas flows chilled.

But south of the 67.5 latitude, around Fort Good Hope and all the way to Fort Simpson, the permafrost is much more unpredictable, and so serious, probably irreversible, damage could be inflicted on the land if the discontinuous or sporadic permafrost is melted.

There are other complicating factors in the region of the corridor. When topsoil is removed, the muskeg is also torn off, which is typically insulation for the permafrost. When it gets put back, the surface is disturbed, causing more thawing or freezing. If the steel pipeline heats on one side and doesn't on the other, it causes bending and ruptures. Engineers are not sure what these consequences will bring. Another worry is the movement of the ground and permafrost around the pipeline, which can also dangerously stress the steel. At the moment, all these questions are in computer models. It is well known that damage to the permafrost is permanent and irreversible.

Climate change is also a factor. Can a pipeline be designed to cope with climate change, which is daily affecting the far North in severely negative ways? It can alter river flows and change stream courses, and create frost heave which could freeze or dam the surface waters, disrupting fish and wildlife habitat which the Dene rely on for food. To alleviate these problems, MGP says this pipeline construction will be done in the winter months. But there are many other unanswered questions:

- transportation of huge equipment by barge in summer and along ice roads in winter can cause problems that will damage the land;
- work crews will be shuttled in and out of construction camps by helicopter, using the main existing airports (Inuvik, Norman Wells, Fort Simpson, and Yellowknife), but the line pipe must be dragged into the route after it is offloaded from barges;
- construction camps will be the site of human and hazardous waste which needs to be collected and transported south to existing facilities — a dangerous task in a region where winter is harsh; and
- social problems may develop when construction workers interact with Dene communities.

The MGP will almost certainly unleash major industrialization of an increasingly endangered wilderness. Already climate change has introduced hotter summers, and the Sierra Club predicts that more forest fires, infestations of southern insects and spruce budworms are likely. Further north, where oil companies are already frantically exploring for more natural gas, sea-ice is disappearing, the extinction of polar bears and seals is predicted, and flooding and erosion of coastal communities is expected as water levels increase.

4 Military Fuel Pump

The United States consumes 25% of the world's petroleum resources, yet has only 5% of the planet's population. America's rapidly escalating military operations are putting additional demands on world oil supplies. Even before September 11, 2001, Vice-President Dick Cheney told the London Institute of Petroleum in 1997 that the U.S. would need an additional 5 to 10 million barrels of oil a day by 2010, largely because of expected new fuel demands for an expanded military.

Although Cheney's predictions remain questionable, the fact remains that the U.S. is undergoing a massive rebuilding of its military industrial base. The period of reprieve following the end of the Cold War is over. The war on terrorism has taken centre stage, becoming the new enemy of the U.S. as the world's remaining superpower. The invasion of Afghanistan after 9/11, followed later by the invasion of Iraq under the guise of finding and destroying weapons of mass destruction, has certainly accelerated the war on terrorism. Both invasions, as we shall see, were also about oil. Spearheading the war on terrorism, the U.S. has taken on the role of "Globocop."

Indeed, the U.S. military has deployed submarines, ships, and aircraft with surveillance and lethal weapons in strategic locations all over the world. In addition to Iraq and Afghanistan, so-called "rogue states" like Iran and North Korea have become prime targets of the Pentagon.

Meanwhile, the threat of China as an emerging industrial and military superpower in its own right looms in the background.

U.S. Military Economy

Almost a half century ago, then outgoing U.S. President General Dwight Eisenhower warned the people of America and the world about the dangers of the "military-industrial complex" in the U.S. Although there's been much speculation since on what Eisenhower meant by his warning, there's little doubt he was referring, among other things, to the collusion that exists between the Pentagon and the major arms manufacturers and defense industry. Through this partnership, the U.S. government heavily subsidizes the defense industry with lucrative contracts. Then, as now, the petroleum industry is an integral part of this "military industrial complex."

With the end of the Cold War, some modest restructuring of the U.S. economy took place. The dismantling of the Soviet Union meant that the U.S. could no longer justify its role as policemen for the "free world." Although military spending certainly continued to grow throughout the 1990s, it levelled off as the U.S. government shifted priorities under President Bill Clinton. Taking advantage of the "peace dividend," government spending was focused a little more on social concerns.

Even so, the infrastructure for a military-based economy remained intact during the 1990s.

The “Project for a New American Century,” founded in 1997, provided the framework for the rebuilding of the “military industrial complex.” This “project,” whose members included subsequent top-ranked George H. Bush administration figures like Dick Cheney, Donald Rumsfeld, Paul Wolfowitz, and Richard Perle, was designed to pro-actively “maintain American security and advance American interests in the new century.” Ever since its inception, “the project” began agitating for war against Iraq, and in 2002 formed the “Committee for the Liberation of Iraq”. As Duke University political scientist Robert Keohane points out in his book *After Hegemony*, the key to this strategy is the degree to which the U.S. is able to gain control over global oil.

A year before being elected president, George W. Bush signalled his intentions to revitalize the military-industrial complex. On September 23, 1999, Bush delivered a comprehensive defense policy statement in which he set three ambitious goals: 1) to “renew the bond of trust between the American President and the American military;” 2) to “defend the American people against missiles and terror;” and 3) to “begin creating the military of the next century.”

Under the Bush administration, U.S. military spending has jumped almost 50%, from US\$315 billion to US\$445 billion in 2005. According to the World Policy Institute, the U.S. military budget will swell to US\$500 billion in 2006. These figures do not include spending for the war in Iraq. The Bush government has spent an additional US\$220 billion on the Iraq war for the 2005–6 periods. As a consequence, the United States now spends more on its military production and operations than the next 30 countries combined.

In turn, this massive boost in military spending has greatly benefited the defense industry and arms manufacturers. The U.S. aerospace

and defense industry consists of 11 major companies — including Lockheed-Martin, Raytheon, General Dynamics and Boeing — employing 901,258 people. Through lucrative contracts with the Pentagon, these companies design and build new tanks, fighter aircraft, submarines, and battleships, along with smart bombs and other lethal weapons.

As a defense analyst with the Lexington Institute put it: “The whole mindset of military spending changed on September 11. The most fundamental thing about defense spending is that threats drive defense spending. It’s now going to be easier to fund almost anything.”

“For a long time, (the defense industry) just didn’t seem like a sexy area that has a lot of legs to it,” said a partner at one options trading firm. But all that has changed. In response to investor interest, stock exchanges are thinking about creating a new Defense Index.

Oil is War

In order to fuel and maintain the military-industrial complex, the U.S. put top priority on gaining control of global oil sources. By securing greater control over the world oil market, Washington would be in a better position to curb the power of OPEC. As the history of the 20th century shows, securing control over oil sources around the globe involves military invasions and almost continuous war in various parts of the world. The ongoing struggle for control of the oil-rich regions of the Persian Gulf testifies to this fact. Oil is war. The invasion of Iraq is but the latest chapter in this saga.

For the U.S., gaining control over global oil supplies has been further intensified by the threat of scarcity and the diminishing number of new oil discoveries. As a result, Washington has gone to great lengths to secure control of supplies by:

- making heavy investments to keep the oil-rich Persian Gulf in its geopolitical orbit;
- propping up unsavoury client regimes with arms and credits;
- acquiring military bases, marginalizing those that stand in their way;
- influencing the routing of oil export pipelines; and
- exercising undisputed control over the sea lanes through which much of the world's oil is shipped.

Since the formation of OPEC in the early 1970s, the U.S. has inserted itself as a dominating force in Middle East politics to regain control over world oil supplies. In the '70s, Washington propped up the Shah of Iran as the West's policeman in the Middle East until the Islamic revolution of 1979. In 1980, the U.S. encouraged Iraq to invade Iran, which bled both countries for eight years, killing hundreds of thousands of people and spending hundreds of billions of petro-dollars on a war that ended in stalemate. In turn, the Reagan administration openly supported Iraq with credits, loans, weapons sales, and intelligence, even when top officials in Washington knew Iraq was using chemical weapons. This phase was followed by the first Gulf War when the U.S. and its allies shifted gears again, this time supplying Saudi Arabia and the Gulf states with massive amounts of military weapons [more than US\$100 billion worth since 1990], thereby reversing the trend of the 1970s and 1980s when Iran and Iraq were the leading arms recipients.

The war on terrorism has unleashed new military-based strategies to gain control over oil supplies. Indeed, securing access to oil, pipelines, and shipping lanes has gone hand-in-hand with a new, revitalized, and fast-expanding U.S. military presence. As imported oil grows in de-

mand, rivalries — especially in politically unstable areas — could lead to confrontations, civil wars, and interventions to ensure compliant regimes in exporting countries. From Pakistan to Central Asia to the Caucasus, and from the eastern Mediterranean to the Gulf of Guinea and the Horn of Africa, a dense network of U.S. military facilities has emerged, with many bases established in the name of the war on terror.

Oil War in Iraq

Robert Fisk, a journalist for the *Independent* newspaper in Britain and an expert on Middle East affairs, wrote recently that “analysis of the relationship between the [Iraq] war and U.S.-oil policy and interests has been a distinctly invisible element of war coverage within the mainstream news media.” While media attention has been focused on the connection between the U.S./allied invasion of Iraq and weapons of mass destruction, retribution for the 9/11 attacks, and the Israeli-Palestine conflict, there has been little focus on the strategic objective of gaining control over Iraqi oil and one of the main Middle East sources of petroleum. Moreover, The Bush administration has been particularly tight-lipped about the role of oil in its aggressive military occupation in Iraq.

Secure access to Iraqi oil was to have been one of the most lucrative spoils of the invasion. Iraqi oil is plentiful, relatively cheap to produce, and of high quality — in effect, almost everything the Athabasca tar sands are not. Western oil companies and importing countries expected to see a windfall in oil exports and profits from Iraqi supplies. But the Iraqi oil sector is in a dilapidated state after 12 years of war, sanctions, sabotage, and looting. In its desperation to rebuild its starved and shattered country, the new Iraqi government will open the oil spigots as soon as the wrecked installations are repaired. A 2003 UN resolution gave the occupiers sole decision-making powers

over the granting of lucrative oil and reconstruction contracts until 2007. Here, U.S. and British oil companies like Exxon-Mobil, Chevron-Texaco, BP, and Shell, which lost assets in the region during the 1972 nationalization, stand to rake in windfall profits.

At the same time, the military occupation itself has been costly in terms of oil. “The U.S. Defense Department has 27,000 military vehicles in Iraq, and all of them get lousy gas mileage,” writes Robert Bryce, author of several books on the connection between Texas oil, the Bush dynasty, and the death of Enron. The enormous appetite of the U.S. military for fuel consumes 1.7 million gallons a day in Iraq.” (Note: 40 gallons equals one barrel of oil). The Defense Logistics Agency must move huge quantities from Kuwait, Turkey, and Jordan daily by truck convoys, some 2,000 trucks a day from Kuwait alone.

To run this operation 20,000 soldiers and civilian contractors work full-time. Fourteen different varieties of fuel are needed for the 225,000 troops, who, says Bryce, are the most energy-consuming soldiers ever seen on the field of war. Each of the 150,000 soldiers on the ground consumes roughly nine gallons of fuel a day. In contrast, almost 296 million U.S. civilians consume three gallons of fuel a day. On average, Europeans consume 1.4 gallons a day, while the amount of oil consumed by people in non-industrialized countries amounts to an average of 0.2 gallons a day.

Fuelling the U.S. War Machine

Oil is clearly fundamental to this U.S. war-based economy. No other commodity exerts as much leverage over the nation’s financial health. It is not surprising, therefore, to find many analysts claiming that it is because of the continued and growing U.S. dependency on oil that it has to secure oil supplies through military intervention and occupation. By the same token, the Athabasca

tar sands are of special interest to Washington. While the extraction and refining of tar sands crude is much more expensive, the resource can be secured without war, instability, and the costs of military intervention.

Clearly, the U.S. has chosen an energy path primarily based on expanding its supply of fossil fuels in general, and oil and natural gas in particular. The Cheney task force report made this clear: America’s energy future is tied to the petroleum industry and the country’s fossil fuel addiction.

From the standpoint of maintaining a military-based economy, the Bush energy strategy makes sense. After all, the industrial and military components of the U.S. economy are highly dependent on fossil fuels. The kinds of economic conversion that would have been necessary to transform industrial production in the U.S. to be compatible with soft-path energy sources did not take place during the post-Cold War era when the Clinton administration could have taken advantage of the peace dividend to retool the U.S. economy along these lines.

Instead, the recent rebuilding of a military-based economy under the Bush administration has intensified America’s demand for — and dependence on — oil. Given the diminishing state of U.S. domestic oil reserves, this means increasing dependence on foreign oil supplies. For Washington, securing oil supply lines in other parts of the world often requires forms of military intervention and occupation. This is why Canada remains the most attractive option for foreign oil imports. Although oil production from the tar sands is economically costly, it is profitable in terms of current world prices. Fuelling a military-based U.S. economy, therefore, requires a continuous, uninterrupted flow of oil and gas from Canada’s conventional reserves — and the tar sands. From Washington’s standpoint, it is crucial that China does not gain a controlling stake in the tar sands.

In effect, Canada is a major energy supplier for the U.S. military-based economy. Much of our oil and gas exports, of course, go to fuel domestic needs such as driving cars (including “SUVs” and “Hummers”), or the heating of homes, or even running industries. But a great deal of the oil we sell to the U.S. is used to fuel the huge American military machine, which operates on a global basis. Most of these figures are classified, and it is difficult to ascertain what percentage comes from domestic stocks, from imports from Canada and elsewhere, and what is simply purchased at site overseas, primarily in places like Kuwait and Bahrain in the Middle East — but the Canadian oil figures are significant.

In May, 2003, Admiral Cebrowski of the U.S. Office of Force Transformation gave a speech in which he outlined how, given the realities of globalization, the U.S. needs not only to secure its own supplies of oil, but also those of its major markets. This includes Japan and Europe, which are much more dependent on oil imports than the U.S. In effect, control over Middle East oil and supply routes is needed to ensure that America’s major trading partners like Europe and Japan have secure access to the energy they need for domestic production and transportation. Otherwise, if energy flows to these key U.S. markets are imperilled, the U.S. balance of trade would be seriously distorted.

In Pentagon circles, this is known as “security energy.” You have to be able to transport energy in order to use it. Therefore, oil and security are inextricably linked. According to U.S. foreign policy, America trades its security in order to stem the tide of terrorism worldwide, which poses a direct threat to its global markets. Hence, protecting energy flows that support both foreign trade and investment are essential to America’s prosperity. By buying off the threat of terrorism, the U.S. also buys off the threat of deflation. As a result, Canada’s exports of oil and gas to the

U.S. are part of a much bigger and more complex network of security energy for the protection of global markets for the United States.

This poses a dilemma for the majority of Canadians who, according to public opinion polls, have been consistently opposed to both the Iraq war and America’s increasing military role in the world.

Bush’s National Security Doctrine

George Bush’s own doctrine on national security served to consolidate these trend lines in terms of U.S. foreign policy. One year after the events of 9/11, Bush issued a new U.S. policy statement on national security, in September 2002. The declaration highlighted three interrelated priorities in defense of U.S. interests:

- that the U.S. had the right to make use of pre-emptive strikes against potential aggressors;
- that the U.S. had the right to act unilaterally if necessary to protect its interests; and
- that, for the U.S., security and trade issues were interlinked to the point where security would trump trade.

In effect, what the Bush doctrine implies is that the U.S. is prepared to deploy pre-emptive military strikes, if necessary, in order to defend or protect U.S. security and commercial interests, especially energy. To a degree, Bush was following policy that dates back to the Roosevelt era. At that time, Saudi-Aramco was formed to make sure the U.S. had a large supply of oil, in return for which it began in the 1970s to supply Saudi Arabia, Iraq, Iran, and the Persian Gulf states with huge amounts of sophisticated military armaments. Troops were stationed in Kuwait, Bahrain, Qatar, and Saudi Arabia to develop an infrastructure

for future interventions to secure the oil order. Since 9/11, U.S. military presence now extends from Pakistan to Central Asia to the Caucasus, and from the eastern Mediterranean to the Horn of Africa, creating a security network built in the name of fighting terror, but in actuality following the trail of oil.

As part of its national security program, the U.S. maintains a Strategic Petroleum Reserve [SPR]. The SPR law says the reserve must contain a legal maximum of one billion barrels of petroleum, authorized by Congress and controlled by the President. In practical terms, the SPR has four large reserve facilities consisting of a combined total of 62 former salt caverns which store the inventory. The facilities are located on the Louisiana and Texas coasts of the Gulf of Mexico. The current capacity is 727 million barrels, and in mid-2005 contained 589 million barrels. Bush ordered them filled to capacity on Sept. 13, 2001, two days after 9/11 tragedy. This was expected to be accomplished by mid-2005, and, when filled, would theoretically give the U.S. 69 days of import protection.

The reserve was established in 1975 in response to the 1973–74 Arab oil embargo. The law says they can only be used in a severe supply emergency, or to meet international obligations, and cannot be used to influence market prices. Obviously, the U.S. military in a war situation would have first call on the SPR, since the U.S. President is commander-in-chief. Although governments with state-owned oil companies, like Venezuela [PDVSA] and Mexico (Pemex), maintain significant oil reserves [earlier we mentioned the reserves held by China and India], the Strategic Petroleum Reserve is critical for U.S. energy security interests.

However, the application of Bush's national security doctrine to protecting oil interests in Asia has been checkmated by Russia and China. The oil-rich Caspian region has emerged as another

potential target area for Big Power politics and military conflict. Both President Putin of Russia and President Hu of China ordered the activation of 10 combat-ready divisions to counter the increasingly aggressive moves being made by the U.S. in the Caspian oil regions, especially Uzbekistan and Kyrgyzstan. The U.S. maintains bases in both countries. Neither China nor Russia, say regional experts, will give up Central Asia or the Middle East by anything other than military defeat.

Continental Security Regime

In outlining their plan for a North American energy or "resource security" pact, the Canadian Council of Chief Executives argued that Canada is not pulling its weight when it comes to continental defense and the global war on terror. Building on NORAD's record of cooperation, Canada's big business leaders called for the creation of "a North American defense community of sovereign nations." Continental defense would defend against missile attacks and airborne threats; share naval protection against seaway invasions; and protect critical infrastructure like pipelines, railways, bridges, hydro-electric and transmission lines from potential terrorist attacks. To carry its share, the CCCE insists, Ottawa must make two major commitments: first, reinvest public dollars in the build-up of Canada's defense and military capability; and second, ensure the "interoperability" of Canadian and U.S. equipment on land, sea, and air.

In the war on terrorism, the Pentagon has been calling for greater military support and "interoperability" with U.S. forces on Canada's part. In effect, this message translates into: "Buy more military equipment from us." The Canadian Department of National Defence appears anxious to enhance the ability of Canadian armed forces to fit seamlessly into the U.S. military so that

they can operate with U.S. forces in wars or military interventions around the world. In terms of equipment, DND has retrofitted its CF-18s with U.S.-made Paveway II laser-guided bombs and purchase SM-2 surface-to-air missiles for its battleships. However, purchasing more sophisticated and powerful U.S. weapons and equipment simply means that the Canadian military can more easily be put under U.S. command.

Since 9/11, Washington has repeatedly insisted that Canada join in creating a common security perimeter in North America. The Martin government moved in this direction by establishing a powerful new Ministry for Public Safety and Emergency Preparedness in Ottawa, which is modelled after the U.S. Homeland Security Agency in Washington. In addition, Canada has enacted its own anti-terrorism legislation [C-36] patterned after the U.S. Patriot Act; set up a data bank to track foreign air travel by all Canadians [C-23]; and implemented the “Smart Border Ac-

cord” which coordinates Canadian and U.S. intelligence operations while overseeing the harmonization of visa, immigration, and refugee policies between the two countries. All these security measures are designed to control the cross-border movement of peoples, and are directly related to U.S. demands for energy security.

From time to time, Ottawa has exercised its national sovereignty by taking a more independent stance on certain public policy issues with Washington. Canada’s refusal to join the U.S.-led coalition in its invasion of Iraq, and the decision not to join Bush’s ballistic missile defense program [better known as Star Wars II], are prime examples of Canada’s willingness to adopt a more independent foreign policy position. But the real linchpin here is Canada’s energy supplies. The question is whether Canadians in general, and Albertans in particular, want this country to continue fuelling the U.S. war economy through ever-increasing oil and gas exports.

5 High Social Costs

Fort McMurray, the hub of Canada's tar sands activity, boasts on its billboards: "We have the energy." And the Alberta government could not be more pleased. The operations are bringing in thousands of high-paying jobs to the region and, if you believe the expensive hype, it could last forever. But the rapid expansion of the tar sands is happening in a social vacuum. Not only has the government failed to plan for, or address, the energy or environmental implications of massive expansion, but it has also ignored the social costs. The Alberta government has stimulated growth without consideration for the infrastructure limitations of the region, the labour and input costs (such as machinery and steel) of the operations, equity for Aboriginal nations, or the long-term revenues of the province.

Without such a vision, costs of both labour and construction inputs are spiralling in all sectors of Alberta's economy. Infrastructure spending is exacerbating this problem. The costs of living in the region are beyond reasonable levels, while housing standards and quality of services plummet. And the provincial government has a plethora of riches while royalties are embarrassingly low and profits for foreign corporations ridiculously high.

This lack of planning and vision are not the sole responsibility of the Klein government. The federal government has also failed to put this

expansion into a planning context. As a consequence, the expansion of the tar sands is being fuelled while issues such as the Mackenzie Valley pipeline, associated Aboriginal rights, and territorial government revenue questions are still unresolved. What is driving this pace of expansion is high prices, and exports to the U.S.

Alberta's Latest Boom Town

Like most boomtowns, Fort McMurray attracts a diverse population: about 50 ethnic groups, as well as displaced Ontarians and, inevitably in the North, a strong community of Newfoundlanders. Almost half the population is directly employed by the oil companies, while thousands more have jobs in secondary industries.

Although Fort McMurray may appear to be awash in cash, the Regional Municipality of Wood Buffalo (within which Fort McMurray is located) shows a very different picture of what is happening. With a population of 56,000 (which the industry predicts may soon reach 80,000), Fort McMurray has, as one municipal representative put it, the amenities of a town of only 10,000. Downtown Franklin Avenue is known across Canada among young men and women as the "crystal meth" capital of Alberta, where the median household income is around \$90,000. But every Thursday night, thousands of residents head

south down highway 63 to Edmonton, five hours away, to return again on Sunday afternoon.

When the municipality of Wood Buffalo presented its “business case” to the Alberta legislature earlier in 2005, it got short shrift. In its 2005 budget, the Alberta government responded with a pledge of only \$60 million over five years for already-approved projects in the province’s No. 1 boomtown. When the mayor suggested she might use her meager municipal powers to delay development, the province coughed up another \$530 million over 10 years for road and bridge improvement, and curtly told the mayor the onus was on her to make sure development isn’t stopped. In other words, no tax hikes.

To Big Oil, which has seen the tar sands go up and down until the subsidies from Ottawa and the province began to flow in 1996 in royalty holidays and tax breaks, and since the price of crude jumped well above \$20 a barrel, this impasse between levels of government is infuriating. In response, the companies decided to run up to 190 buses a day from the city to the tar sites, simply because it would take all day if workers drove the narrow Highway 63 in their own cars. Now the companies are threatening to take other measures, such as buying land to set up satellite suburbs north of the city with much-needed housing, bypassing the crowded highways by building an airport on project lands, and chartering jets to fly workers in from Calgary and Edmonton.

All of these private sector undertakings may please the Alberta government, but they still leave Fort McMurray with multiple social problems such as garbage clean-up, potential toxic spills on the bad roads, rundown schools and health facilities, plus a lack of adequate policing simply because the RCMP cannot afford to subsidize its officers to pay the city’s high cost of living.

Collapsing Public Services

Back in Fort McMurray, Mayor Melissa Blake, a feisty first-termer (her predecessor went off to join Klein’s cabinet as Environment Minister) is worried about a host of problems resulting from a lack of money, even as her city sits surrounded by 68,454 sq km of the Wood Buffalo Region which has, the industry likes to say, 300 billion barrels of recoverable synthetic oil anticipated to last 80-100 years with current technology. She should be laughing instead of worrying.

In the spring, the melting snow bares streets littered with all kinds of garbage. The mayor would like residents to take more pride in their community. There’s the debauchery on Franklin Street, the overcrowded schools, and the lack of land (despite 68,000 sq km of Crown land) for proper housing developments, plus the need for a new fire station for the south end of the city and a new water treatment plant.

Fort McMurray’s population has been growing at a rate of 8% a year over the past seven years. It is now well on its way to becoming the third largest city in Alberta (after Edmonton and Calgary). But the public infrastructure is not keeping pace with this rapid rate of growth. If the companies are going to continue attracting and retaining qualified workers, then the city and municipality must be able to provide the adequate public services needed for a good quality of life. That’s why the Regional Municipality of Wood Buffalo petitioned the Klein government of Alberta in May 2005 for a \$1.2 billion grant, plus the release of Crown land needed for housing. The money would be spent over a four-year period on the following public service priorities:

- \$353 million for water, waste water, road and recreation facilities;

- \$236 million for primary, secondary, and post-secondary education;
- \$500 million on highway projects; and
- \$126 million on health and affordable [low-income] housing.

The Crown land owned by the province that surrounds the city has contributed to a serious housing shortage that's become a nightmare for home-buyers and a major headache for an industry desperate to lure a skilled workforce north.

What's more, the local economy is badly skewed. Pipe-fitters, electricians, engineers, and plumbers can easily earn \$100,000 a year, and the average age is just over 30. But the Regional Municipality of Wood Buffalo and local business can't compete. In a province where the minimum wage is just \$5.90 an hour, Tim Hortons offers its workers \$10.25 an hour to serve doughnuts and coffee in Fort McMurray, and they still cannot find staff. Teachers, medical workers, and municipal employees cannot be persuaded to stay in Fort McMurray at the wages the city can afford.

The Great Tar Sands Giveaway

At first glance, requesting \$1.2 billion from the provincial government to rebuild public infrastructure over a four-year period for a town of 60,000-plus residents may sound like asking too much. It *is* a lot of money, but, like everything in the tar sands, costs are over the top. Yet Fort McMurray has become the service centre for the world's largest known hydrocarbon deposit. One would think that this amount would be a drop in the bucket for the Alberta government. After all, the provincial government receives royalties from the oil industry for the extraction and production of the resource. Constitutionally speaking, it is the people of Alberta who own the oil in the Athabasca tar sands, and the industry is obligated

to pay royalties or, in other words, an equivalent amount for the permanent depletion of Albertans' natural capital.

In the case of the tar sands, however, the industry managed to secure what amounts to a holiday on royalty payments. An industry task force that was established during the mid-1990s prepared a report that included recommendations on royalty rates. Then the industry invited the federal and Alberta governments to review the report, and the three bodies signed a joint agreement which looked very much like the original industry task force recommendations. The agreement itself provided the industry with an incentive package by charging only a 1% royalty on tar sands revenues until all capital costs are paid off.

The announcement was made in 1996 by Premier Ralph Klein and former Prime Minister Chrétien. Describing the generous incentive package granted to the tar sands industry, Chrétien explained how companies could avail themselves of the lucrative tax breaks. They could write off 100% of their capital costs, Chrétien declared, including overruns, in the year they were incurred. Curiously enough, these remarks were made by the same man who, 15 years earlier, was a member of the Trudeau cabinet that brought in the National Energy Program, which was roundly condemned by many Albertans as a theft of their natural birth rite.

In effect, the generous incentive package meant that the tar sands was heavily subsidized by both levels of government through federal tax writeoffs and low provincial royalties. Between 1995 and 2002, tar sands production is estimated to have increased 74%, but the Alberta government received only \$6 billion in royalty payments from the industry during this period because of the low 1% royalty rate. Had the regular royalty rate been applied to the tar sands revenue, the Alberta government would have had plenty of resources to spend on much-needed public ser-

vices and social needs. Instead, the regional municipality of Wood Buffalo has no choice but to go cap-in-hand to Edmonton just to keep its faltering water system afloat, let alone free up Crown land to house an exploding workforce.

Alberta's royalty regime was designed in the mid-1980s, when oil prices were as low as US\$10 a barrel, and have remained largely unchanged ever since. As a result, the Alberta Heritage Fund has not kept pace with its counterparts in Norway and Alaska. In 1996, reports the Parkland Institute, the Alberta Heritage Fund had \$13.7 billion while Norway's heritage fund had \$11.1 billion and Alaska's a whopping \$26.5 billion. By 2002, Alberta's fund had dropped to \$11.8 billion, while Norway's had zoomed to \$101 billion and Alaska's was inching up steadily to \$35.7 billion plus, distributing an annual oil dividend of between US\$1,000 and US\$1,900 for every Alaskan. In sharp contrast, despite the booming tar sands in Alberta, the Klein government took in less than half the revenue per unit of oil than did the Lougheed government of the 1970s. In fact, according to the Parkland Institute, the Klein government collected more revenues from gambling than from royalties on the tar sands in 2004/05.

Clean-Up Operations

The costs of cleaning up wells that run dry and tar sands mine and steam-drilling sites are huge. Even drilling sites are messy affairs where gravel roads must be removed, soil decontaminated, and the site left the way drillers found it. There are reported to be as many as 30,000 inactive oil wells in Alberta, many of which pose safety and environmental hazards. Some of them are abandoned and become what the industry calls "orphan" wells, the responsibility of no one. Proper clean-up is a legal obligation in Alberta. Costs vary in conventional wells from as low as \$5,000 to as high as \$50,000. Critics say the Energy Resources

Conservation Board is not aggressive enough in demanding an acceptable clean-up of inactive and abandoned wells.

The same principles are supposed to apply in the tar sands, although the reclamation costs are enormous and unknown. By licence, lease and law, the land is supposed to be returned to the pristine state it was in before mining or drilling began. In the case of mining, this includes restoring the topsoil and muskeg that was removed to access the tar sands. Syncrude, the largest of the open-pit miners, says it has reclaimed over 3,000 hectares and planted 2.5 million trees and shrubs. It will return the land it uses "to a stable, biologically self-sustaining state." Suncor claims it has left a "footprint" on 7,610 hectares since its start-up in 1967, and has reclaimed 732 hectares.

Tailing ponds, the large settling basins used to store the water from the extraction process, also varies in the way they are dealt with. They contain water, silt, clay, and hydrocarbon residues. Suncor uses a technology that accelerates the settling of the tailings and removal of the water, leaving the tailings as part of the land, which it claims will contain only material natural to the area. It hopes to discharge the water into the Athabasca River if provincial regulatory approval is given. Syncrude plans to form lakes from its tailings ponds, using a system called "water-capping" which it claims will evolve into natural ecosystems within two to three years, complete with freshwater plants, animals, and fish.

There is no time-line for reclamation, except that it will be done within the life of a mine, and monitoring is as ad hoc as the clean-up of abandoned oil wells. A 1999 report by the Parkland Institute — *Giving away...the Alberta Advantage: Are Albertans receiving maximum revenue from our oil and gas?* — pointed out: "The environmental impacts of oil sands development, both those that have been foreseen and those that aren't, can still result in significant costs to local [Wood

Buffalo, Fort McMurray] people, and Albertans in general. These types of potential impacts reinforce the need to ensure that the bounty of the oil sands not only rewards the petroleum producers, but also adequately accounts for the significant costs and risks borne by ordinary Albertans.”

Non-Unionized Labour

In the pro-business climate of Alberta, organized labour has to be extra-vigilant. Given the thousands of jobs at relatively high wages, these corporations are constantly looking for ways to cut their costs by lowering wages where they can. Recently, the Klein cabinet quietly passed an Order-in-Council implementing a rarely-used section of the Labour Relations Code that allowed one of the biggest tar sands projects — Canadian Natural Resources Ltd.’s (CNRL) Horizon Project — to have “special status” for employing non-union workers. It also allows company-friendly unions outside the Alberta Federation of Labour (AFL) to construct its US\$10.8 billion mega-project in the muskeg, 75 km north of Fort McMurray.

The move will allow CNRL to hire non-union and foreign labour and rewrite the rules for overtime, wages, travel, and other work practices for trades-people as part of the company’s strategy to avoid what it calls multi-billion-dollar cost overruns that have plagued other projects for decades in the tar sands. The AFL argues that there are plenty of qualified and skilled workers in Alberta and Canada, and that the “special status” will lead to job-site conflict and less qualified and experienced trades-people being hired, which will result in lower-quality work and more accidents.

It is part of an ongoing effort to have unions like the Christian Labour Association of Canada [CLAC] sign “sweetheart” deals with contractors and break the power of organized labour. For example, the Alberta Building Trades Council (ABTC) has confronted giant Suncor’s allegations

of skilled labour shortages as their excuse to hire foreign workers, some of them Venezuelans who were fired by the government-owned oil company in that country for sabotage of the Chavez government’s nationalist policies.

“There has never been a project in Alberta that the building trades have not been able to supply the workers from Alberta,” said Mark McCullough, executive director of ABTC. “On Shell’s \$5.7 billion Athabasca Oil Sands Project [completed in 2003], we had 15,000 people on site at peak.” He adds that, if a shortfall were to occur among Alberta workers, a nation-wide pool of 400,000 skilled workers could be tapped through union affiliates.

“Work longer, get paid less, live worse,” is how trade union organizer Ted Ash describes the Horizon strategy. He says his union, the Regional Council of Carpenters and Allied Workers, are determined to keep CLAC and its “sweetheart” deals out of the work-site. But the Klein government has tilted the bargaining table in favour of the company. In the past, a united front among the trade unions would have been enough to foil the company’s plan with the implicit threat that the project would be left without enough workers to proceed. But the exemption has hurt. If ABTC’s union members won’t sign the contract agreed to already by CLAC, the company can sign up whomever it wants, including foreign workers.

The AFL says the government’s special status order sets a dangerous precedent: “From now on, other oil sand developers will point to the Horizon Project and ask: ‘Why do they get special treatment?’ Labour laws in Alberta are already stacked against workers and the unions that represent them. Now, thanks to Horizon, employers may begin pressuring for more favourable treatment. And Alberta workers and their families and communities will pay the price.”

Cheap Foreign Labour

In addition, Suncor had circulated a two-page memo on hiring cheap foreign labour because of its alleged fear of labour shortages. But the real reason, admits Suncor, is not a lack of workers but lack of cooperation between the unionized ABTC and a “convenience union,” CLAC.

CLAC is the fulcrum for CNRL’s effort to rewrite the rules, and it is garnering support from all major companies. It is loathed by organized labour and derided “as a handmaiden of management and a K-Mart union” offering lower wage scales to employers. CLAC says it is just a more pragmatic alternative to the older unions.

The Suncor memo says foreign labour could be an answer because many ABTC members will not work on a CLAC site. That acrimony was enough to convince CNRL to opt for separate camps for each group of workers to live in while they build Horizon and minimize the chance of hostility breaking out. The company is also assigning the two groups of workers to separate parts of the project in the hope that distance will cool tempers and allow them to pay fewer overtime costs that they say are a large part of cost overruns. The unions reply that the extra work-time is the result of bad planning and bad management.

Now, with its “special status,” Horizon can hire any kind of worker, including those from ABTC and CLAC. The latter organization, which is recognized in only five provinces including Alberta, has agreed to longer work-weeks and a flat 10% premium after 40 hours of work instead of the normal time-and-a-half and double-time. The change is estimated by CNRL to cut its labour bill by 12%, and would cost each of the estimated 6,000 workers 15 hours of pay over 10 days. But, most galling, it means all workers will be paid the same amount as CLAC. Other plans are for smaller rooms in the already dreary camps, and

a smaller living allowance for those living in Fort McMurray.

The unions are cautious because, according to ABTC, there are a lot of unemployed plumbers and pipe-fitters in Edmonton alone, and many waiting to join the unions if there is work. While Suncor and CNRL say they won’t hire foreign workers, the same rules don’t apply to contractors. A Vancouver-based company, Ledcor Group, also a Suncor contractor, reportedly secured approval from the federal government to bring in nearly 700 Latin American skilled oil-field workers within the next year. It could be very disruptive, says Alberta Liberal MP and labour critic Dan Backs. He believes the labour shortage issue has been deliberately blown out of proportion by the companies as an excuse to cut wage costs. Backs criticizes the deal between Ottawa and Edmonton, and wants both levels of government to revisit the policy on importing foreign trades-people and examine the “real reason” the companies are looking abroad, which is to break the power of the unions.

The ABTC, which represents 40,000 skilled workers in Alberta, fears other multi-billion-dollar tar sands projects will seek similar “special status.” “What is the point of living in Alberta if its workers cannot benefit from the development?” said Adrien Graci, an ABTC spokesperson.

Dene Land Rights

The construction of the Mackenzie Gas Project pipeline has the potential of generating other forms of social alienation. Since the proposed pipeline corridor will cross lands traditionally owned and occupied by the Aboriginal peoples, the issue of land rights and political rights is of crucial importance. Only one land use plan, the Gwich’in, has been approved, and the establishment of conservation areas has barely started. And the De Cho Dene in the southern Mackenzie, across whose land some 40% of the MGP pipeline

will traverse, have yet to reach a settlement with Ottawa regarding their land rights.

There is much history here, dating back to the last of the numbered treaties, Treaty 11, signed in 1920. For long after Judge Berger called for a 10-year moratorium on the first proposed Mackenzie Valley Pipeline in 1977, the issue of land tenure see-sawed back and forth between the federal government and the Dene Nation whose people have occupied these lands since time memorial. The talks with the Dene Nation collapsed in 1990. This was followed by regional talks, culminating in 1992 and 1993 with the Gwich'in and Sahtu agreements, both of which involved surrender of Aboriginal title in exchange for cash compensation and some settlement land rights.

The Deh Cho, on the other hand, refused to relinquish their Aboriginal rights. "We didn't 'surrender' land with Treaty 11," says De Cho leader Herb Norwegian, "It was a peace treaty between two sovereign nations." The De Cho tried in 1996 to settle with Ottawa, but federal officials would not talk, claiming that Norwegian and his people wanted more powers than a province.

Similar divisions unfolded over Aboriginal ownership and participation in the construction of the proposed pipeline to bring natural gas from the Arctic south to fuel the Athabasca tar sands development. In the Northwest Territories, non-renewable resource extraction quadrupled in four years between 1999 and 2002, due to three diamond consortiums, crude oil production in Norman Wells, and natural gas in Fort Liard. So, when the MGP group was formed, it is not surprising that some enterprising Aboriginal leaders wanted to get involved and make sure it would be a good deal for the North and its people.

The idea of forming an Aboriginal Pipeline Group as a partner in the pipeline construction seemed to make sense. While the federal government verbally supported the APG proposal, it was strangely unwilling to provide loan guarantees for

the billion dollars needed for APG to become fully-funded partners of MGP. Curiously, the three Aboriginal groups, all of whom had received some \$300 million in cash payouts, were also unwilling to risk their own money in the APG venture. Only TransCanada Pipelines came up with any cash for APG's share of the environmental and engineering studies, and that was a loan with definite strings attached.

The Deh Cho, for their part, did not sign on to the APG, in part because their land rights remained unsettled. Indeed, the pipeline route would have to cross that unsettled land (210,000 sq km centred around historic Fort Simpson). Besides, they had also been excluded from the regulatory reviews of the MGP application. So the De Cho launched two lawsuits seeking temporary and permanent injunctions against the federal government to keep it from proceeding with any review of the MGP that did not include the Deh Cho as a full participant. Their reason: the Deh Cho hold title to their land, therefore the Mackenzie Valley Environmental Review Board [MVERB] should not be making decisions about their land without Deh Cho participation.

Northern Social Costs

At the same time, the NWT government is in debt and in deficit. That's blamed on Ottawa for clawing back transfer payments and withholding devolution of resource royalties. Perhaps worst of all, the communities around the Mackenzie Valley, outside burgeoning Yellowknife, are unhappy, fearful of losing what's left of their land-based culture. Trapped in the big money of resource extraction industries and a consumerist society, many are caught in a cycle of alcohol, drugs, and poor health. The boom money comes and goes, like it always has since Europeans invaded the North, and little of it stays beyond the élites.

By June 2005, the country's business pages were trumpeting that MGP was "at risk," and that Imperial Oil as lead partner was playing a dangerous game of threats to halt the project they might just be willing to back up. Premier Joe Handley of the NWT government was demanding that Ottawa come up with money, and asked for an immediate \$100 million a year in new spending to address socioeconomic concerns. Ottawa stalled for a while, and then offered some help. But the real issue for the NWT is the need for a system of resource-sharing similar to that accorded the provinces. Ottawa, the colonial power, gets all the revenue from territorial resources and then pays back the operating expenses of the NWT.

Stephen Kakfwi, former Premier of the NWT and a past leader of the Dene Nation, insists that a revenue-sharing agreement with Ottawa, which would include a royalty rate return similar to the provinces, should be in place. In the fall of 2004, Kakfwi said: "I think the Prime Minister [Paul Martin] should come out before Christmas and say, 'yes, revenue sharing will be provided for the people of the North and to Aboriginal governments on a fair and equitable basis.'" Kakfwi went on to say that the Prime Minister should use the net benefit it will bring in to "provide interim arrangements for those communities along the right-of-way so they can prepare properly while we finalize an agreement."

Meanwhile, the \$100 million a year Handley wanted represents about 10% of the NWT budget. Ottawa finally gave the NWT a "temporary fund" to pay for social services, in the "hope" that this would "relieve" some of the pressure on the pipeline negotiations. David Searle of Imperial Oil wanted more specifics before the project went back to full speed. The regulatory hearings, expected to last at least a year, were due to start in the autumn of 2005 with a decision by the NEB possibly around the end of 2006. But resource-sharing is nowhere on the table. The NWT gets

about 4% royalties on its diamonds and oil, says Handley, and the rest goes to Ottawa, whereas the provincial average is about 30%.

No pay, no play

By mid-2005, however, the MGP itself was concerned that some of its critics who were predicting the pipeline was on the back burner again might be right, and the project was faltering, even in danger of collapse. It might be delayed another three decades. Ottawa was getting the blame: regulatory hearings by the NEB and the environmental impact assessment review panels were delayed, and "unreasonable" demands from northerners for land access were cited by Imperial Oil as reasons to stop all preparatory work for the pipeline in late April.

The federal government, which, as we have seen, was also being squeezed by the government of the NWT, realized during the summer that the \$7 billion project was in serious trouble and that Imperial Oil's threats to back off the construction might be more than just a little haggling and stalling to get more and better conditions — it might be for real. Deputy Prime Minister Anne McLellan, Alberta's only Liberal MP and a senior cabinet minister, suddenly got on board and issued a letter on Nov. 16, 2005, promising Imperial Oil major concessions totalling as much as \$2.8 billion to help get the stalled project back on track. That's almost a third of the projected cost of construction.

"The government of Canada is committed to working with you [MGP] to explore options for its participation in the project," she wrote. McLellan indicated that Imperial had told the federal government it wanted at least \$1.2 billion in various breaks. As well, Ottawa, already pre-empting its mandatory and still-to-be started regulatory inquiries, suggested a range of options favourable to the MGP. These included taking natural gas in

lieu of cash royalty payments, and providing loan guarantees to the Aboriginal Pipeline Group to help pay its share of pipeline and natural gas development so it can secure its long-planned equity stake in the project.

“We are offering concessions,” McClellan said at a press conference in Ottawa, “because the North is an underdeveloped frontier.” She also denied that the concessions were a “subsidy” for the increasingly costly pipeline construction, preferring to call it “various forms of federal investment in one or more components of the project.” Imperial announced it was “pleased” with Ottawa’s concessions, and the AGP was also delighted, with its leaders predicting that a deal was very close.

Imperial Oil is majority-owned by ExxonMobil Corporation, which in August 2005 reported the largest quarterly profit in U.S. corporate history — a whopping US\$10 billion. A northern wag asked: “Who should be subsidizing whom?”

However, as Imperial seems not to have learned over the three decades it has been trying to punch a pipeline down the Mackenzie Valley, the Dene have a way of raising awkward questions when governments and corporations fail to take their concerns seriously. While Cournoyea of the APG was delighted, the Deh Cho’s grand chief, Herb Norwegian, said the deal, if there was one, was “some way off.” Deh Cho land straddles almost 50% of the southern half of the pipeline route.

“We hear them clawing at the door, but we’re not ready yet,” Norwegian said. He said there was no deal on land access and community benefits. Some groups further north have agreed on access, but the Deh Cho are adamant: “The negotiators are still far apart, sometimes so far apart they cannot see each other.” Imperial had hoped to make an announcement of the re-start of the pipeline shortly after McClellan’s letter was received so positively, but Norwegian’s tough talk about his people’s concern that harm will be done to the land and water of 200,000 sq km of the

Deh Cho nation were not reassuring to the world’s largest oil company.

The Deh Cho insist they are a First Nation and that, when dealing with the MPG, “we are a government and we will act like a government. Our people have been very hard-line and we’ve never said whether we were for or against the pipeline. If they [MPG] want to travel through our land, then they have to pay access fees and benefits to the communities and we need to be able to levy taxes,” the outspoken Dene leader said in Edmonton in late November, adding that “Edmonton may think that it’s the gateway to the North, but the Deh Cho is the Kuwait of the North. We have a policy towards the MPG of ‘no pay, no play.’”

Not long after McClellan’s announcement, Imperial Oil told the NEB it was ready for public hearings even though it still had no finalized access deals with First Nations groups. It is possible hearings could begin in 2006 and, optimistically, be concluded a year later. Separate hearings will be held by a joint review panel formed in 2004, which has representatives from federal and territorial governments, Aboriginal communities, and the Mackenzie Valley Environmental Review Board. Their assessment — and any conditions they attach to the report — will be fed into the NEB’s economic and technical hearings. The NEB has the final say on whether or not to approve the project.

These high social costs are being paid by northerners, Aboriginal peoples, Albertans, and Canadians to expedite U.S. access to Canada’s oil and gas, with no planning and almost no public debate. The governments could instead be developing the tar sands at a pace that is consistent with addressing the environmental and energy security concerns of all Canadians, with a longer-term vision that ensures that the benefits of the resource exploitation are maximized for this and future generations. All this could be done at a pace that maximizes quality jobs for Albertans

and Canadians, does not exploit First Nations and their land, and over the longer term does not overstimulate the economy. Instead of a finite embar-

assment of riches, the Alberta government could have the seeds of a sustainable future beyond fossil fuels.

Conclusions

This report raises serious questions, not only about the development of the Athabasca tar sands, but also about Canada's national energy policies and strategies. For these reasons, we are formulating our concluding assessment and recommendations in terms of two tracks.

Track 1 **Development Policies and Strategies**

First, the combined development of the Athabasca tar sands and the Mackenzie Gas Project to produce a mega-energy corridor primarily designed to serve U.S. markets raises major concerns about development policies and strategies in resource-based regions of Canada. Following is our assessment and recommendations.

Athabasca Tar Sands

Our report shows that, although the development of the tar sands could be a highly lucrative enterprise, it is also a very expensive undertaking in comparison to conventional oil production and, more importantly, it is accompanied by extraordinary ecological and social costs. Canadians are being called upon to pay a huge price for development of the tar sands in terms of:

- *our environmental priorities*, because of the direct landscape and water impacts as

well as the substantial increases in greenhouse gas emissions that come through this kind of oil production, which, in turn, will have negative impacts on our international commitments under the Kyoto Accord;

- *our peace priorities*, because our oil and gas is exported to refineries in the U.S. where a significant portion is used to fuel the American military-industrial complex, which continues to wage war in Iraq, Afghanistan, and oil territories elsewhere;
- *our social priorities*, because of the lack of vision of the government for maximizing the long-term return to Albertans from the exploitation of their resource, causing in turn a lack of decent and affordable housing for workers near the production sites, the collapse in public services, increasing exploitation of cheap labour, and unresolved Aboriginal and territorial rights; and
- *our energy security*, because of Canada's fast-dwindling conventional reserves and the high costs associated with non-conventional sources.

The citizens of Alberta, let alone Canada, have never had a say in the decisions affecting the de-

velopment of the Athabasca tar sands. We therefore call upon both the federal and provincial governments to immediately invoke a moratorium on the further expansion of the tar sands until there has been a public inquiry into the impacts of this mega-energy project on the four major issues of public policy outlined above. To stimulate and enforce this moratorium, the two governments should rescind their direct subsidies to the oil industry in the tar sands, revoke the minimal 1% royalty rate, and replace it with a more realistic set of royalty fees. The federal government should also reinstate the tax rate which it allowed Syncrude to reduce by \$507 million between 1996 and 2002.

In addition to these three policy priorities, the public inquiry should also examine the impact of the current tar sands development and export on Canada's own energy security, both short-term and long-term.

Alberta Development Plan

Our report raises serious questions about whether the revenues generated by the resources in the Athabasca tar sands are either sufficient or adequately spent. The findings of both the Parkland and Pembina Institutes in Alberta make it clear that the province has given up billions of dollars in potential resource revenues from the industry and that Alberta's Heritage Fund has shrunk by nearly 50% in real terms since 1987. Although tar sands production increased 74% between 1995 and 2002, royalty revenues from the tar pits *declined* 30%. As a result, Alberta has collected far less for its Heritage Fund than its international counterparts in either Norway or Alaska. Moreover, attempts to develop an industrial strategy of value-added production in order to sustain Alberta's resource-based economy in the long run have been inadequate. Consequently, the people of Alberta are not getting true value in return for

their non-renewable natural resources like oil and natural gas.

The people of Alberta — and by extension the rest of Canada — deserve to get a fair return on the extraction of their non-renewable resource base and re-investment plans for long-term economic development. We therefore call upon the government of Alberta to reinstate a fair royalty regime that is comparable with those of Norway and Alaska. This would mean changing Alberta's average royalty fee from US\$4.30 a barrel to match Norway's US\$14.10, or at least Alaska's US\$11.60.

We also propose — along the lines advocated by the Communications, Energy and Paperworkers' (CEP) policy paper of 2002 — that the Alberta government consciously develop an industrial strategy for the province's longer-term economic development. Priority should be put on plans for stimulating substantial growth in Alberta's petrochemical manufacturing sector, along with fertilizers, paints, and other derivatives of petroleum. Since natural gas is essential for most of these value-added industries, the industrial strategy should include plans to ensure that ongoing supplies are allocated for domestic production priorities instead of being exported.

Mackenzie Gas Pipeline

Our report raises a series of social, environmental, and governance problems that must also be adequately resolved before the construction of the Mackenzie pipeline is allowed to proceed. These include:

- *Aboriginal land rights*, which have not been completely negotiated, settled, and implemented for all of the Dene nations in the Mackenzie (e.g., the Deh Cho);
- *Permafrost damage*, which is caused when heat generated by the pipeline ends up melting the fragile permafrost as the surrounding muskeg is stripped away; and

- *Energy wastage*, which has to do with the fact that one form of energy is being produced and transported to create yet another form of energy for export to the U.S.

In addition, there are other problems associated with the proposed pipeline construction, such as the lack of financial securities for the investment made by the Aboriginal Pipeline Group and the possible use of cheap foreign labour in the actual construction of the pipeline. These problems must be resolved before construction proceeds.

Indeed, it is clear that several of the serious problems originally identified almost 30 years ago as conditions for a moratorium on the proposed Arctic Gas pipeline by Mr. Justice Thomas Berger's Royal Commission Inquiry have not yet been satisfactorily resolved. We therefore call upon the federal government, in conjunction with the government of the Northwest Territories, to place a moratorium on the construction of the proposed Mackenzie Gas Pipeline until these outstanding problems are satisfactorily resolved. Constitutionally, the federal government has responsibilities and obligations to the Northwest Territories. Where necessary, this moratorium should proceed in tandem with the moratorium proposed above on the expansion of the Athabasca tar sands development. In part, at least, the resolution of one depends on the other.

Northern Development

Our report notes that the Canadian North continues to be plagued by the boom-and-bust realities that other resource-based economies of the country experience, including Alberta's. The difference, of course, lies in the fact that Alberta is a province with much more in the way of governing powers than the Northwest Territories, which is still, in large measure, a ward of the federal government. To be sure, both the NWT and Nunavut have made significant strides in recent years un-

der Aboriginal leadership towards more self-governance, but there is still a long way to go. In the meantime, the NWT's boom-and-bust economy, having gone through the gold-mining phase, is now becoming a diamond-mining centre on the world stage. And, with the natural gas discoveries in the Mackenzie Delta and Beaufort Sea, the NWT could be on the verge of an enlarged economic boom.

But the NWT still lacks a longer-term economic development plan, which means that it is likely to continue falling into the trap of other boom-and-bust resource economies. As with Alberta, the NWT also needs to have a fair royalty regime in place. Unlike Alberta, however, the NWT does not yet have the powers to set its own royalties on the extraction of natural gas. It's the federal government that possesses these powers, and that's why the NWT's former premier, Stephen Kakfwi, has called on Ottawa to transfer these powers to the territorial government. We also call on the federal government to give the territorial government the powers it needs to charge companies fair royalty fees for the extraction of natural gas and other resources from their homeland. This move, however, should be contingent on the NWT government preparing an economic development plan that puts priority on using its resource base for secondary manufacturing and value-added industries.

Track 2 Energy Policies and Strategies

The development of this mega-energy corridor raises serious questions about Canada's energy policies and strategies. At the core of the problem is the fact that we no longer have a made-in-Canada energy policy and strategy. Although it is not within the parameters of this report to outline an alternative energy policy and strategy for Canada, our findings may be helpful in identifying some of the major issues and components that

need to be addressed. Following is our assessment and recommendations:

Energy Security

Our report clearly emphasizes that the current practice of rapid and increasing exports of oil and gas to the U.S. runs the risk of putting our own energy security as a nation at risk. Based on the most extensive studies available, our studies show that Canada may have, at best, 10 years' supply of conventional oil and natural gas remaining. Although there are non-conventional supplies such as synthetic oil from the tar sands, it is equally clear that most of the oil produced from the tar sands is earmarked for export to the U.S. when it could be used for Canadian consumption. Frontier supplies of gas from the Mackenzie Delta, Beaufort Sea, and High Arctic are also to be directed for fuelling production in the tar sands, not for meeting Canadian energy needs. In spite of being a petroleum producing country, Canada now finds itself in the unenviable position of having to import more and more of the oil its citizens need, and very likely will be forced to import natural gas, too, in the near future.

It is the prime responsibility of the federal government, in collaboration with oil and gas producing regions like Alberta, to oversee the country's energy needs and to ensure that the energy security of Canadians is maintained in both the short and long term. In this context, we call on the federal government to overhaul the operations of the National Energy Board by giving it a clear mandate to oversee Canada's overall energy security needs, along with the policy and regulatory tools necessary to carry out this mandate. More specifically, we propose that Ottawa take immediate steps to restore the policy and practice of maintaining a 25-year supply of oil and gas in reserve to meet domestic needs. While these policy actions may sound like bold measures to some, the fact remains that much of what is needed now

was commonplace in this country a quarter-century ago. The steady deregulation of the oil patch in the years since then has now brought us to the brink. Either Ottawa takes action now, in collaboration with Alberta and other oil and gas producing regions, or Canada's own energy security will be put seriously at risk.

Energy Sovereignty

To achieve energy security, however, national governments must also be able to exercise sovereignty over their energy resources and production. Yet, as subsidiaries of U.S. oil giants increasingly secure control over the Alberta oil patch and frontier natural gas, the chances of exercising energy sovereignty diminish. Through its subsidiary, Imperial Oil, the world's leading oil company, ExxonMobil, already owns and controls a substantial portion of Alberta's oil patch, including substantial leases in the tar sands. It is also the majority shareholder in the Mackenzie Gas Project. In effect, decisions affecting the production of oil in the tar sands and gas in the Mackenzie delta are being made in Houston, not in Calgary or Edmonton — and certainly not in Ottawa. Now that Petro-Canada, once the country's only publicly-owned oil company, is being sold off, the federal government has no means by which to exercise effective decision-making powers in the market place concerning the production of oil and gas.

Recent public opinion polls, taken to assess public rage over soaring gasoline prices across the country, indicate that people want their governments to exercise more sovereignty over energy resources and the industry. In fact, one poll showed that 51% of Canadians who had expressed an opinion were in favour of nationalizing the oil corporations in Canada. Given the growing public concern over the country's energy security in the future, and the continuing anxiety over escalating gasoline and natural gas prices, Ottawa needs to immediately develop some new tools for exercis-

ing energy sovereignty. We call upon the federal government to take a fresh look at what it means to develop new tools, not only for increasing Canadian ownership of the oil and gas industry in Canada, but also new forms of public ownership and control. In this regard, simply stopping the sell-off of Petro-Canada is not sufficient, since Petro-Canada would need to be revitalized and retooled to do the job that needs to be done to enact energy sovereignty in the petro-market.

Energy Exports

As we have seen, one of the prime motivators of rapid and increasing exports of Canadian oil and gas to the U.S. is the proportional sharing clause that is now incorporated into NAFTA. Under this clause, Canada cannot reduce its exports of oil and gas below the proportion of total supply exported over the previous three years, even for reasons of our own energy security, let alone for purposes of energy conservation. For the U.S., this amounts to a built-in guarantee of access to a steady supply of oil and gas from Canada. During the NAFTA negotiations, Mexico was wise enough to seek and win an exemption from this proportional sharing clause.

The people of Alberta own their oil and gas resources under Canada's constitution, and have the right to set royalty rates. But the federal government has responsibility over international trade and therefore energy exports. It is also Ottawa that negotiates trade agreements like NAFTA. We therefore call upon the federal government to emulate Mexico by seeking and obtaining an exemption from the proportional sharing clause, or, failing that, to withdraw from NAFTA completely. In effect, this would require reopening NAFTA negotiations to rescind Articles 315 and 605 pertaining to the proportional sharing clause. Certainly, the failure of the U.S. to abide by the rules of NAFTA — notably in the prolonged dispute over softwood lumber exports from Cana-

da — provides ample justification for Canada to call for such a reopening and renegotiation of NAFTA. Unless Ottawa takes bold action now to get rid of the NAFTA proportional sharing clause, there is little hope that Canada will be able to curb oil and gas exports sufficiently to deal with its own energy security needs.

Energy Prices

Although our report does not address the issues of escalating oil and gas prices, its release coincides with a sharp rise in petro-rage. Across the country, people are upset and angered by skyrocketing oil and gas prices, whether this comes with filling up their gas tanks or heating their homes during the cold winter months. While pressures mount on politicians to take regulatory action to lower prices here in Canada, there are major constraints on what governments can do in this country. The fact remains that we no longer have a single national market where a made-in-Canada price is possible. Instead, we are now fully integrated into a North American market in which oil and gas prices are determined in Chicago. If oil refineries are battered by hurricanes in the Gulf Coast, as we saw last summer, then the spiking of oil and natural gas prices in the U.S. is immediately reflected here in Canada. This spiking of oil and natural gas prices is cited by experts, including M. King Hubbert, as the final symptom of having passed the global energy peak.

It does not matter that Canada is an oil and gas producing country and has its own domestic market to serve with its own resources. The prices to be charged for our gas tanks and home heating needs are set in Houston and Chicago, not in Calgary and Toronto. Three decades ago, there was a two-price system for oil: world prices and made-in-Canada prices. Then a decision was made to shift to a single pricing system allegedly based on world prices — but in fact the price of oil in Canada today does not simply reflect world

prices. First, and foremost, it is determined by the market price set in the United States. We therefore recommend that the Canadian government conduct a public review of energy price-setting in this country, with a view to restoring the capacity of governments to take effective regulatory action to redress imbalances and disparities of energy prices where necessary.

Energy Alternatives

As our report also warns, cutting back on oil and natural gas exports simply to serve our own domestic supply needs alone is not an adequate energy policy and strategy for the long term. Globally speaking, we are either at, or very near, the peak of petroleum reserves on this planet. What remains in terms of unconventional reserves to be tapped are both extremely expensive and environmentally risky, as we have seen with the Athabasca tar sands. They are also, for the most part, technologically challenging. The simple fact is that the Earth is running out of fossil fuels to burn. Yet, as a nation and a society, we are addicted to them. For all the rhetoric of politicians about the need for energy conservation and alternatives, we continue to be highly dependent on fossil fuels and waste a great deal of the reserves we have left. Any serious plan for energy security, therefore, needs to include concrete commitments to developing alternatives to fossil fuels.

Canada appears to be lagging as much as the United States behind other regions of the world

when it comes to policies and programs for energy alternatives. In Europe, for example, policy choices have been made in countries like Germany to move towards soft-path energy alternatives. Governments are leading the way with public investments in solar and wind technologies. If Ottawa and the provinces are serious about our energy security as a country, then major commitments must be made to developing energy alternatives. We therefore call on the federal government to initiate, with the provinces, a national strategy for developing new policies and programs for energy alternatives. This strategy needs to include a time-table for measurable reductions in fossil fuel dependence, effective conservation of oil and gas supplies, and new public investments in soft-path energy alternatives like solar and wind power.

* * *

Taken together, these are our main insights and recommendations arising out of this inquiry and report. In our view, there is no doubt that a thorough review of Canada's energy policies along these lines is long overdue. The two-track process outlined here provides a possible framework for developing a new made-in Canada energy policy and strategy. Although more detailed work certainly needs to be done on each of the components, this framework should be useful as a starting point for moving in this new direction.

Bibliography

Books

A Billion Barrels for Canada: The Syncrude Story, Fort McMurray, AB, Syncrude Project, 2000, 182pp.

Bryce, Robert, *Cronies: Oil, the Bushes and the Rise of Texas, America's Superstate*, New York, Perseus Publishing Group, 2004, 352 pp.

Chastko, Paul, *Developing Alberta's Tar Sands: From Karl Clark to Kyoto*, Calgary, University of Calgary Press, 2004, 320pp.

Gary, Ian and Karl, Terry Lynn, *Bottom of the Barrel: Africa's oil boom and the Poor*, Baltimore, Catholic Relief Services, 2003, 102 pp.

Fisk, Robert, *The Great War for Civilization: The Conquest of the Middle East*, London, Fourth Estate, 2005, 1365 pp.

Keohane, Robert, *After Hegemony: Cooperation and Discord in World Political Hegemony*, Princeton, N.J., Princeton University Press, 1984, 2005, 281 pp.

Klare, Michael, *Blood and Oil: The Dangers and Consequences of America's Growing Dependency on Imported Petroleum*, New York, Metropolitan Books, 2004, 251 pp.

Kunstler, James Howard: *The Long Emergency: Surviving the Converging Catastrophes of the Twenty-first Century*, New York, Atlantic Monthly Press, 2005, 307pp.

McQuaig, Linda, *It's the Crude, Dude: War, Big Oil, and the Fight for the Planet*, Toronto, Doubleday Canada, 2004, 346 pp. Melnyk, George, ed., *Canada and the New American Empire*, Calgary, University of Calgary Press, 2004, 253 pp.

Syncrude Fact Book, 4th edition, Fort McMurray, AB, Syncrude Canada, 2003, 61 pp.

Varley, Julian, *High Noon for Natural Gas*, White River Junction, Vermont, Chelsea Green Publishing, 2004, 280 pp.

Periodicals and papers

America's Gas Tank: The High Cost of Canada's Oil and Gas Export Strategy, Price, Matt and Bennett, John, Natural Resources Defense Council, Sierra Club of Canada, Ottawa, 2002.

Atlantic Monthly magazine, "Gas Pains," Bryce, Robert, May 2005.

Backgrounder: Oil Sands Economic Impacts Across Canada, CERI Report, Canadian Association of Petroleum Producers, September, 2005, communication@capp.ca.

Canadian Business, Nikiforuk, Andrew, "Eight Wrong Ways to Think About the Future of Energy: Mythology," January 17, 2005.

"New Frontiers: Building a 21st century Canada-United States Partnership in North America," Canadian Council of Chief Executives Ottawa, April 2005.

Canadian Dimension, "Northern Pipe-Dreams, Northern Nightmares: The Second Coming of the Mackenzie Valley Pipeline," Cizek Petr, March/April 2005.

Canadian Oil and Gas Review, northern edition, "Suncor's Board approves billions for oil sands growth, capital spending plan," Fort McMurray, AB, December 2004.

Canadian Perspectives, The Council of Canadians, "Why the Waco Pact is, Well, Wacko," Spring/summer 2005.

"Canada and the U.S.: A Seamless Energy Border?" Bradley, Paul G. and Watkins, G. Campbell, C.D. Howe Institute Commentary, Toronto, April, 2003

Co-operation Plan for the Environmental Impact Assessment and Regulatory Review of a Northern Gas Pipeline through the NWT, prepared by 17 regulatory agencies, June 2002.

"Creating a North American Community," co-chaired by former Canadian Deputy Prime Minister John Manley, report released Washington, March 23, 2005.

The Economist magazine, "The real trouble with oil: how to avoid the next energy shock," London, April 2005.

Far North Oil and Gas quarterly magazine, winter, spring, summer, fall issues, Yellowknife, NWT, 2005.

"For a Canadian Energy Policy," Communications, Energy and Paperworkers Union (CEP) energy policy paper, 2002.

Fort McMurray, 2005 Guide, tourism magazine Fort McMurray and the Regional Municipality of Wood Buffalo, 2005.

"Must We Keep the U.S. Elephant Fed and Happy?" Global Economic Justice Report, Toronto, April 2005.

The Guardian newspaper, "Beware the Fossil Fools," Monbiot, George, London, April 27, 2004.

"Impacts of a Warming Arctic Climate Impact Assessment Highlights," International Arctic Research Centre, University of Alaska, Fairbanks, AK, 2004.

Maclean's magazine, "Alberta is About to Get Wildly Rich and Powerful. What Will Happen to Canada?" Maich, Steve, Toronto, June 13, 2005.

"North American Natural Gas Vision," *North American Energy Working Group (NAEWG)*, January, 2005.

Oilweek magazine, “Lifestyle Fort McMurray,” April 2005.

“Giving away...the Alberta Advantage: Are Albertans receiving maximum revenue from our oil and gas?” Parkland Institute, Edmonton, November 1999.

“Making It Work: Kyoto, Trade and Politics”, Parkland Institute, Urquhart Ian, Edmonton, October 2002.

Report on Alberta’s Oil Sands, *Pembina Institute*, Calgary, November, 2005.

Petropolitics: Oil and Politics, “Bush-Cheney Energy Strategy: Procuring the Rest of the World’s Oil,” Klare, Michael, Amherst, Mass., www.petropolitics.org.

Petropolitics: Oil and war in Iraq, “Oil: The Substance of War” www.petropolitics.org.

Pipelines and Pipe Dreams: Energy and Continental Security, Edmonton, Pratt, Larry (undated).

Report on Business magazine, “Living Inside a science project: as Canada starts to run out of natural gas, the energy industry is forced to drill wells that yield less but disrupt more. One new source, coal bed methane, may become our salvation — or just reflect our desperation,” Nikiforuk, Andrew, Calgary, May 2005.

Report on Business, The Globe and Mail, “Crude Awakening,” seven-day series, May 21-29, 2005.

Report of the National Energy Policy Development Group (“Cheney Report”), May 2001 www.whitehouse.gov/energy

Saturday Night magazine, “The Next Saudi Arabia,” Maloney, Tom, Toronto, summer 2005.

Scan (Sierra Club Activist News) “Implementing Kyoto,” Sierra Club of Canada, Ottawa, February, 2005.

Short-term Canadian Natural Gas Deliverability: 2004-2006, National Energy Board, Calgary, November, 2004.

Various public papers on sustainability, environment, technology, future predictions, etc., Suncor Energy Communications Calgary, 2005.

Walrus magazine, Gilmor, Don, “As the Oil Runs Out,” Toronto, April 2005.

Wood Buffalo Business Case 2005: A Business Case for Government Investment in the Wood Buffalo Region’s Infrastructure. Fort McMurray, AB, March, 2005.

Appendix 1

The text of Article 605 reads as follows:

Article 605: Other export measures

“Subject to Annex 605 (which covers Mexico’s exemption from this article)

A Party may adopt or maintain a restriction otherwise justified under Articles XI: 2(a) or XX (g), (i) or (j) of the GATT with respect to the export of an energy or basic petrochemical good to the territory of another Party, only if:

- a) the restriction does not reduce the proportion of the total export shipments of the specific energy or basic petrochemical good made available to that other Party relative to the total supply of that good of the Party maintaining the restriction as compared to the proportion prevailing in the most recent 36-month period for which data are available prior to the imposition of the measure, or in such other representative period on which the Parties may agree;
- b) the Party does not impose a higher price for exports of an energy or basic petrochemical good to that other Party than the price charged for such good when consumed domestically, by means of any measure, such as licenses, fees, taxation and

minimum price requirements. The foregoing provision does not apply to a higher price that may result from a measure taken pursuant to subparagraph a) of this Article that only restricts the volume of exports; and

- c) the restriction does not require the disruption of normal channels of supply to that other Party or normal proportions among specific goods or categories of goods supplied to that other Party, such as, for example, between crude oil and refined products and among different categories of crude oil and of refined products.”

To understand the implications of this article one must appreciate the significance of the GATT Articles (now incorporated into the WTO) which it modifies.

GATT Article XI prohibits quantitative export restrictions generally. But it permits

- “2.(a) Export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party.”

GATT Article XX on “General Exceptions” permits members to apply measures:

“g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption...

i) involving restrictions on exports of domestic materials necessary to ensure essential quantities of such materials to a domestic processing industry during periods

when the domestic price of such materials is held below the world price as part of a governmental stabilization plan...

j) essential to the acquisition or distribution of products in general or local short supply; Provided that any such measures shall be consistent with the principle that all contracting parties are entitled to an equitable share of the international supply of such products...”