

# **The Integrity of Creation & the Athabasca Oilsands**

## **St. Paul Bishop Luc Bouchard issues a pastoral letter on major economic development in his diocese**

### **INTRODUCTION**

#### **Dear faithful of the Diocese of St. Paul,**

The ecological crisis, described above by Pope Benedict XVI and Pope John Paul II, is evident in many parts of Canada. Our wasteful consumerist lifestyle, combined with political and industrial short-sightedness and neglect, are damaging our air, land, and water. Personal, social and political change will be necessary to meet this national challenge.

As the bishop of the Diocese of St. Paul in northeastern Alberta, it is my responsibility to provide moral advice and leadership on questions that affect the faithful who live in my diocese. It is therefore impossible for me to ignore the moral problem created by the proposed \$150 billion oilsands developments in the Municipality of Wood Buffalo because these projects are in "my own backyard," and have aroused strong ethical criticism.

In this pastoral letter I will consider this extraordinary and controversial industrial development from a Catholic perspective.

Whenever I drive to Fort McMurray and enter the city on highway 63, I appreciate reading the prominently displayed motto of the Municipality of Wood Buffalo: "We Have the Energy!" The energy is not only in the sands but is also, as the sign implies, in the very hard working people who live in this northern community.

The general public has only recently become conscious of Fort McMurray. They do not know of its history as a trading and shipping centre, of its connection to the early fur traders, missionaries, and voyageurs, of its First Nations and Metis communities, of the near 50-year-old history of the development of the oilsands industry and the risks the pioneers of this industry undertook.

It is not generally known that Suncor and Syncrude in the 1980s had contingency plans to shut down, padlock and mothball their plants due to the then very low price of oil, \$12 a barrel.

The people of Fort McMurray have a long history of meeting challenges with hard work and dedication. They have worked through some very economically threatening days while maintaining excellent schools, medical and social services, and a vibrant city government.

The oilsands plants have a deserved good reputation for fostering team work and innovation, promoting safety awareness, encouraging positive race relations, supporting the involvement of aboriginal entrepreneurs, advancing the role of women in the workplace, and financing research and development in the environmental sciences. [\[1\]](#)

Syncrude and Suncor have been very good employers. This letter is not written to criticize the efforts of those good people who call the Municipality of Wood Buffalo home. Their labour

created a community where many now retire in order to remain close to their children and grandchildren who also work in the oil industry.

The critical points made in this letter are not directed to the working people of Fort McMurray but to oil company executives in Calgary and Houston, to government leaders in Edmonton and Ottawa, and to the general public whose excessive consumerist lifestyle drives the demand for oil.

The letter is in four parts:

The first section, Theological Reflection on Creation, presents the reasons why safeguarding the natural environment is a religious obligation.

The second section, The Environmental Impact of Oilsands Development, summarizes the effects that oilsands development has on the air, land and water in northeastern Alberta.

The third section, An Action Plan to Safeguard Creation, draws religious and moral conclusions from the above analysis and recommends actions that must be considered, if the integrity of the environment is to be respected.

The fourth section, Conclusion and Closing, finishes with thanks and offers suggestions for a political and personal response to the environmental challenge of the oilsands.

## **THEOLOGICAL REFLECTION ON CREATION**

***"God saw everything that he had made, and indeed, it was very good." (Genesis 1.31.)***

The environmental movement has been steadily gaining in public support and awareness since the publication in 1962 of Rachel Carson's book *Silent Spring*. This movement has functioned for the Church as a prophetic "sign of the times," causing the Church to re-examine her traditions and theology in the light of documented ecological distress.

Since 1965, from all parts of the world, Catholic bishops have written over 40 individual pastoral letters addressing the deteriorating quality of the world's air, water, climate, and food. Additionally many joint pastoral letters written by regional and national conferences of bishops as well as several papal documents on the ecological crisis have been written.

As a result of this international theological reflection, a global Catholic moral consensus now exists: the environmental crisis is real and it requires a religious and moral response. In the *Compendium of the Social Doctrine of the Church*, published by the Vatican in 2005, a very significant portion of the text, chapter 10, is dedicated to Safeguarding the Environment. [\[2\]](#)

Environmental ethics is no longer of interest only to the specialist or to an elite group of theologians, but is now of great significance for mainstream Catholic life. I will briefly summarize the major themes presented in the *Compendium*, in papal encyclicals, in the pastoral letters of the Canadian Conference of Catholic Bishops and the Bishops of Alberta and in the many pastoral letters provided by Catholic bishops throughout the world and then apply these principles to the current development of the oilsands:

## **FOUNDATIONAL CATHOLIC THEOLOGICAL PRINCIPLES SUPPORTING ENVIRONMENTAL ETHICS**

Biblical faith proclaims that creation is good. The earth is presented in the book of Genesis as

being like a garden that is to be tended so as to sustain all of life. [\[3\]](#) God's covenant with Noah includes all earth's creatures that are later depicted in the psalms as joining with humanity in a common chorus of praise to God. [\[4\]](#) **All creatures, therefore, are gifts from God to be nurtured and safeguarded with which we enjoy a type of kinship.** [\[5\]](#)

The earth is humanity's home given as a gift from God. The earth, therefore, is to be treasured, loved and safeguarded. [\[6\]](#)

The earth has intrinsic value. Its future is still unfolding and has been part of the universe from the beginning in the form of a promise; one that Catholics believe will be completed when all of creation shares in the fulfillment of Christ's redemption. That is what we pray for when we say, "thy kingdom come." **To abuse creation, therefore, constitutes a lack of faith, a type of despair, or even a blasphemy.** [\[7\]](#)

Jesus' many references to flowers, birds, crops, seasons, weather, etc. reveal that nature has for him a revelatory significance. [\[8\]](#) Christians learn God's ways primarily by reflecting on the Word of God but also by closely observing creation which in a sacramental like manner, make visible the power and beauty of God. [\[9\]](#) Spiritual growth results when Christians nurture a sense of "solidarity and companionship with all creation." **Therefore, when people destroy or damage creation they are limiting their ability to know and love God.** [\[11\]](#)

Creation has limits, and constitutes in itself an objective order that requires respect. [\[12\]](#) When creation is threatened with violent disrespect, it is only a matter of time before this violence spreads resulting in a breakdown of civil peace. [\[13\]](#) **Therefore, when we allow creation to be damaged and degraded we risk losing our sense of God's natural order and even our sense of God's existence.** [\[14\]](#)

Pope John XXIII, in his 1963 encyclical letter *Pacem in Terris*, was the first pope to extend the concept of the common good to a global, international dimension. Pope John Paul II extended it further to include the common good of creation when he stated that government is required to work toward a healthy environment, adequate and safe water, and effective regulation to limit hazardous pollution, and to insure clean air and safe food. He specifically noted that these goods cannot be sacrificed simply for the sake of financial gain. [\[15\]](#) The Canadian Catholic bishops further refined this concept by noting: the "Common good should be conceived as the sustenance and flourishing of life for all beings and for future generations." [\[16\]](#) **Therefore even great financial gain does not justify serious harm to the environment.** [\[17\]](#)

When there is uncertainty as to whether a development project seriously endangers the environment, a precautionary principle utilizing prudence and caution should guide the decision making process which itself must be administratively transparent. [\[18\]](#) **Therefore, massive projects that clearly endanger the environment must be approached in a deliberate, open and consultative manner.**

"The relationship of indigenous peoples to their land and resources deserves particular attention, since it is a fundamental expression of their identity." [\[19\]](#) **Therefore industrial projects that directly affect the traditional way of life for First Nations and Metis people must receive their support and approval.**

## **THE ENVIRONMENTAL IMPACT OF OILSANDS DEVELOPMENT**

*"Creation itself will be set free from its bondage. . . . We wait for it with patience."  
(Romans 8.21, 25.)*

The above principles are severely challenged by the enormous scope of the proposed oilsands developments and by the environmental damage they will inflict. The Athabasca oilsands deposit represents the second largest known deposit of oil in the world. There are over one trillion barrels of oil embedded in the sands, with an estimated 315 billion barrels being theoretically recoverable. [\[20\]](#)

Because most of the currently proposed oilsands developments are in the region surrounding Fort McMurray and utilize surface mining techniques, [\[21\]](#) this letter will restrict itself to an examination of this industrial process in the Fort McMurray region. The principles I arrive at, however, also apply in general to the Peace River and Cold Lake areas where the in-situ method, in which steam is injected into wells and bitumen is extracted, is more common.

Surface mining of oilsands is a multi-phased, complex operation:

Large tracts of boreal forest are prepared for mining by draining off ground water, removing the trees and topsoil, and removing the "overburden" of muskeg, peat, sand, etc. in order to expose the underlying oilsands. To produce a barrel of oil requires excavating two tons of earth and muskeg. [\[22\]](#)

The oilsands, which have firm sandstone like density, are then surface mined and crushed into a granular state, which is then mixed with water and solvents and piped to an on-site processing plant. Medium grade oilsands consist of 83 per cent sand, 10 per cent bitumen, four per cent water and three per cent clay. [\[23\]](#) On average, two tons of oilsands need to be mined and processed, for each barrel of oil produced. [\[24\]](#)

At the plant site the sand slurry is placed into tanks where it is further mixed with hot water and sometimes caustic soda. Bitumen, a heavy viscous form of oil, floats to the surface where it is skimmed off into holding tanks, then diluted to improve its flow, and finally piped to refineries; the sand settles out to the bottom of the tank and is removed and returned to the earth, leaving a murky middle layer (middlings) which constitute a mix of water, silt, clay, traces of chemicals as well as some bitumen. The middlings are processed to remove as much water as possible for recycling and then the remaining middlings are deposited into tailings ponds.

The environmental liabilities that result from the various steps in this process are significant and include:

### **DESTRUCTION OF THE BOREAL FOREST ECO-SYSTEM**

All of the oilsands leases slated for development are in terrain classified as boreal forest. This type of ecological site is environmentally valuable because it has the unique ability to store large amounts of carbon in its bogs, peat, soil, and trees. The destruction of boreal forest reduces the earth's capacity to store carbon and releases greenhouse gases into the atmosphere as it is destroyed.

The proposed oilsands projects, if all were to be activated, would remove an area of boreal forest eco-system equivalent in size to the state of Florida. [\[25\]](#) This destruction will also have

an adverse effect on wildlife especially migratory birds, black bears and woodlands caribou.

When the affected land is reclaimed it is landscaped and planted with native species but will no longer function ecologically as it did in its original state as a boreal forest. [\[26\]](#) This is especially true of what were once wetlands. To date, reclamation is proving to be much more difficult, slow and expensive than originally envisioned.

### **POTENTIAL DAMAGE TO THE ATHABASCA WATERSHED**

Two to four and a half barrels of water are required to produce a barrel of oil from oilsands. [\[27\]](#) This water is used to create the slurry of bitumen and oil that is heated and processed. Much of this water is recycled. The process used at the Syncrude oilsands plant recycles water a total of 18 times and in the past 25 years has reduced water usage per barrel by 60 per cent. [\[28\]](#)

Also, approximately 35 per cent of the water used in processing bitumen is returned to the water cycle through evaporation. [\[29\]](#) Despite impressive recycling efforts and improvements, for every barrel of oil produced approximately one barrel of water is contaminated in the process and deposited into a tailings pond. [\[30\]](#)

At present, 76 per cent of water allocations from the Athabasca River are for industrial use. This 3.2 billion barrels a year is slated to rise to 4.2 billion barrels when all of the proposed plants are operating. Cooperative ventures between industry, downstream First Nations and Metis communities, and the City of Fort McMurray are striving to arrive at manageable controls for water usage.

But a recent report concluded that "Over the long term, the Athabasca River may not have sufficient flows to meet the needs of all the planned mining operations and maintain adequate instream flows." [\[31\]](#) This possible shortage threatens fish, wildlife, downstream communities, and transportation in the McKenzie delta. [\[32\]](#)

Apart from the environmental issue of polluting one barrel of water in order to produce a barrel of oil, the toxicity of the tailings ponds also represent a very long term threat to the regions aquifers and to the quality of water in the Athabasca River due to the danger of seepage or a sudden and large catastrophic failure of a pond's enclosure. [\[33\]](#)

### **THE RELEASE OF GREENHOUSE GASES**

Very large amounts of natural gas are required to heat water in order to process bitumen. By 2011, it is estimated that the then existing oilsands plants will burn enough natural gas to annually release 80 million tons of CO<sub>2</sub> into the atmosphere. This is far more than all of the CO<sub>2</sub> released annually by all of Canada's passenger cars. [\[34\]](#) The oilsands plants will then account for 15 per cent of all of Canada's greenhouse gas emissions.

At present, Alberta produces three times more per capita greenhouse gas emissions than the Canadian average and six times the West European average.

The good news is that progress is being made in reducing the amount of greenhouse gas emissions per barrel and the concept of carbon sequestering (pumping CO<sub>2</sub> into sealed underground caverns) offers some potential hope in the reduction of emissions. The bad news is that this reduction will not affect the total amount of emissions because new oilsands projects and expansions keep raising the total amount of emissions despite average per barrel reductions.

## **HEAVY CONSUMPTION OF NATURAL GAS**

To produce a barrel of oil processed from oilsands requires approximately one thousand cubic feet of natural gas per barrel. It is estimated that as proposed future oilsands projects come on stream, 20 per cent of Canada's total natural gas production will be burned in order to extract bitumen.[\[35\]](#) This means that a very significant amount of relatively clean burning natural gas will be used to produce much more environmentally damaging oil. Also this high consumption of natural gas will likely raise its cost thereby promoting the use of coal and/or coal bed methane as cheaper alternatives. Coal derived energy is more environmentally harmful than natural gas.

In summary, enormous quantities of clean natural gas are being burned to produce more environmentally damaging bitumen and the process is likely to bring about other adverse environmental effects.

## **THE CREATION OF TOXIC TAILINGS PONDS**

The "middlings" (water, suspended clay and bitumen) that are deposited into tailings ponds settle over time into a layer termed "mature fine tailings," which compact into a stable suspension that cannot at present be further recycled. This suspension is very toxic containing naphthenic acids, phenolic compounds, ammonia-ammonium with traces of copper, zinc and iron as well as residual bitumen and naphtha.[\[36\]](#)

Despite a great deal of research and effort, no fully effective means of neutralizing the toxicity of these tailings ponds has to date been devised although some slow progress is being recorded.[\[37\]](#)

There are two proposed treatments for these ponds. One involves speeding the settlement process through the addition of gypsum or other agents and then filling the pond with tailing sand and further reclaiming it by established practices.

The second method involves turning the final mine pit site into an "end pit lake," in which the toxic materials remain settled at the bottom and are covered over with fresh, clean water. If undisturbed, the toxicity remains localized and some aquatic life can return.

The problem with these solutions is that the long-term integrity of the containment structures is unknown. Toxic materials may in time seep into the Athabasca River polluting it and in succession the Slave River, the Mackenzie River and the Beaufort Sea.[\[38\]](#) If a substantial leak of an end pit lake occurred, the result would be catastrophic.

Tailings ponds will continue to grow in size and number as the oilsands industry expands. There are now 5.5 billion cubic metres (175,000,000,000 cubic feet) of impounded tailings. This is slated to grow to 11 billion cubic metres.[\[39\]](#) This is an almost unimaginably large amount of toxic material.

These toxic ponds will exist long after the plants have closed and will require 100 years or more of supervision and maintenance.

Any one of the above destructive effects provokes moral concern, but it is when the damaging effects are all added together that the moral legitimacy of oilsands production is challenged.

An even more alarming level of concern is reached when the scale of proposed future

expansions (a quadrupling of the number of barrels per day from 1.25 to five million) is taken into account. It is then that the full environmental threat of the oilsands and the resulting gravity of the moral issue involved is most deeply felt.

The ecological objections and fears surrounding oilsands development outlined above are not contentious. Both industry and environmentalists, I believe, would agree that the above is a fair summary of the situation.

The concerns environmentalists express are highly credible. The proposed additional oilsands projects are moving forward based on the confidence that technological solutions will be found to these concerns. This drive to development ignores the fact that 40 years of research into the oilsands, while it has led to a substantial reduction in some forms of pollution, especially air pollution and water usage, does not at present hold out the hope of reducing environmental harm to an acceptable level primarily because of the enormous scale and rapid development of the projects.

The moral problem does not lie in government and industry's lack of a sincere desire to find a solution; the moral problem lies in their racing ahead and aggressively expanding the oilsands industry despite the fact that serious environmental problems remain unsolved after more than forty years of on-going research. The moral question has been left to market forces and self-regulation to resolve when what is urgently required is moral vision and leadership.

**I am forced to conclude that the integrity of creation in the Athabasca oilsands is clearly being sacrificed for economic gain. The proposed future development of the oilsands constitutes a serious moral problem.**

**Environmentalists and members of First Nations and Metis communities who are challenging government and industry to adequately safeguard the air, water and boreal forest eco-systems of the Athabasca oilsands region present a very strong moral argument, which I support.**

**The present pace and scale of development in the Athabasca oilsands cannot be morally justified. Active steps to alleviate this environmental damage must be undertaken.**

### **AN ACTION PLAN TO SAFEGUARD CREATION**

***"You have given them dominion over the works of your hands." (Psalm 8.6.)***

When environmental and moral concerns are raised about the oilsands, they are politely received by government and industry, but are considered to be neither economically nor politically realistic. Environmental and religious objections are dismissed as too idealistic or negative, as minority voices which are unable to rally sufficient public support that would politically justify slowing the pace of development.

I believe public opinion on environmental issues is rapidly changing. Many now in the United States and Canada want government action to protect the environment. Government and industry will be forced to recognize that oilsands development should not proceed until the environment can be adequately protected. Environmentalists have created a list of requirements that industry should meet if sound and sustainable development is to proceed:

- The integrity of the Athabasca watershed must be safeguarded. This includes not only the

Athabasca River but the tributaries and ground waters within the surrounding watershed. The extraction of water from the Athabasca River must be regulated to insure the viability of the downstream First Nation communities living near Lake Athabasca and surrounding the McKenzie Delta. [\[40\]](#) The approved use of water removed from the Athabasca should take into account the probability of low flow conditions resulting from periodic drought and the transportation needs of First Nations people in the McKenzie delta. [\[41\]](#) *A very prudent precautionary approach should surround water issues.* [\[42\]](#)

- How much concentrated toxicity is manageable? Who is responsible for the long-term (over 100 years) supervision of these ponds? How much money is being put aside to insure this liability? The question as to whether it is ethical to create such enormous amounts of essentially poisonous materials with no known way to detoxify them needs to be addressed. *A rational limit must be placed on the size and quantity of tailings ponds.*
- It is not acceptable to damage the environment to create oil if the oil is wasted. *A national program of energy conservation that includes ambitious auto fuel efficiency standards should be initiated to reduce Canada's use of oil and to promote the development of alternative energy sources.*
- Any proposed oilsands development must ensure that the traditional way of life of First Nation and Metis communities is not adversely affected. *The treaty rights of First Nations people to hunt wildlife and to fish have to be respected.* [\[43\]](#)
- Hedging on our national commitment to reduce greenhouse gases is damaging to Canada's reputation and is damaging to the environment. *Future oilsands developments must be paced so as to allow Canada to meet its international commitments.* [\[44\]](#)
- *The enormous amounts of greenhouse gases created by the oilsands processing plants must be offset by national reductions.*
- Clear cutting of vast areas of forest should be minimized so as to allow the forest to remain connected with interlocking groundwater, bogs, and wetlands. [\[45\]](#) *A land use plan should be created to protect the boreal forest eco-system.* [\[46\]](#)
- *The Municipality of Wood Buffalo should be provided with adequate social resources and infrastructure in order to meet the educational, health, and social services requirements to service a large and a transient population.* [\[47\]](#)
- *Foreign workers must be protected from exploitation and Alberta labour standards must not be lowered or compromised.*
- Sufficient revenue for full reclamation has to be assured and in place before development proceeds. The cost of this reclamation must be arrived at by a public and transparent process. At present, the monies allocated for this purpose do not appear to be at all realistic. [\[48\]](#) These reclamation amounts cannot be dependent upon future revenue from the proposed plants. Assurance has to be iron-clad that reclamation monies or bonds are in place even if the oil plants were to suddenly fold or face bankruptcy. The public should

not be faced with a reclamation bill for the Athabasca oilsands as happened with Nova Scotia's Sydney tar pond. *Future liabilities for the reclamation of the boreal forest ecosystem, the tailings ponds, ground water and the Athabasca water-shed area must be covered by full cost bonding.* [\[49\]](#)

**I believe that a serious commitment on the part of government and industry must be made to satisfying the above requirements before any further oilsands plants or leases are considered for approval.**

## **CONCLUSION AND CLOSING**

***"The earth is full of the steadfast love of the Lord" (Psalm 33.5).***

I repeat my appreciation to the people of Fort McMurray and to the parish of St. John the Baptist, as well as to the First Nations and Metis people of Fort McKay, Janvier, Conklin, Chard and Fort Chipewyan for their faith witness of family life, hard work, and generosity as well as a genuine love for the Athabasca region and a deep concern for its natural integrity.

I trust that this pastoral letter will encourage them in their efforts to protect the environment.

Also I wish to thank the efforts of ecologists working for the oil industry as well as the ongoing work of environmentalists and others associated with the Sierra Club, the Pembina Institute and the Parkland Institute, as well as the good work done by consortiums of government, industry and environmentalists in the Cumulative Effects Management Association, the Wood Buffalo Environmental Association, and the Regional Aquatics Monitoring Program.

The people of the Diocese of St. Paul are deeply indebted for their dedication.

I hope you the faithful of the Diocese of St. Paul will contact your member of the Legislative Assembly and member of Parliament and tell them that you want responsible industrial development which means one in which the environment is in fact respected and protected.

I hope that those of you who work in the oilsands industry or related fields will raise this issue in the workplace and will do whatever lies within your field of responsibility to safeguard the integrity of creation.

Finally, in closing, I wish to share with you a most beautiful insight on the relationship between religious faith and the environment that was given in an address at the Vatican by Ecumenical Patriarch Bartholomew on Oct. 18, 2008 during the recent Synod of Bishops, On the Word of God in the Life and Mission of the Church, which I was privileged to attend.

Patriarch Bartholomew said: "The entire world is a prologue to the Gospel of John. And when the Church fails to recognize the broader, cosmic dimensions of God's Word, narrowing its concerns to purely spiritual matters, then it neglects its mission to implore God for the transformation - always and everywhere, "in all places of his dominion" - of the whole polluted cosmos. . . .

"All genuine 'deep ecology' is, therefore, inextricably linked with deep theology: 'Even a stone,' writes Basil the Great, 'bears the mark of God's Word. This is true of an ant, a bee and a mosquito, the smallest of creatures. For he spread the wide heavens and laid the immense seas; and he created the tiny hollow shaft of the bee's sting.' Recalling our minuteness in God's wide

and wonderful creation only underlines our central role in God's plan for the salvation of the whole world." [50]

Fraternally yours in Christ,

† **Luc Bouchard Bishop of St. Paul in Alberta January 25, 2009**

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## **Canadian Religious Conference in Solidarity with Pastoral Letter of Bishop Luc Bouchard**

We wish to express our gratitude for the timely release of the pastoral letter of Bishop Luc Bouchard to the Catholic faithful in the Diocese of St. Paul. This pastoral letter clearly represents the ongoing teaching of the Catholic Church and its concern for the environment and our responsibility toward caring for creation. The information provided in the pastoral letter concerning the development of the tar sands and its impact on the environment is essential to more fully understanding the gravity of the tar sands situation.

Bishop Bouchard rightfully challenges the governments and the oil companies to acknowledge what seems obvious to so many others:

"I am forced to conclude that the integrity of creation in the Athabasca Oil Sands is clearly being sacrificed for economic gain. The proposed future development of the oil sands constitutes a serious moral problem. Environmentalists and members of First Nations and Metis communities who are challenging government and industry to adequately safeguard the air, water, and boreal forest eco-systems of the Athabasca oil sands region present a very strong moral argument, which I support. The present pace and scale of development in the Athabasca oil sands cannot be morally justified. Active steps to alleviate this environmental damage must be undertaken."

The CRC applaud the list of essential requirements that industry must meet if sound and sustainable development is to proceed. In particular, we endorse the bishops concern for the people, especially those from aboriginal communities, who are most negatively impacted by ongoing development.

We concur with Bishop Luc Bouchard's conclusion in the pastoral letter:

"I believe that a serious commitment on the part of government and industry must be made to satisfying the above requirements before any further oil sands plants or leases are considered for approval."

The CRC wishes to endorse Bishop Bouchard in his request for action and wish to extend this message to all people concerned about the future of God's creation which he has entrusted to us all:

"I hope you the faithful of the Diocese of St. Paul will contact your Member of the Legislative Assembly and Member of Parliament and tell them that you want responsible industrial development which means one in which the environment is in fact respected and protected. I hope that those of you who work in the oil sands industry or related fields will raise this issue in the workplace and will do whatever lies within your field of responsibility to safeguard the integrity of creation."

*Yvon Pomerleau, OP*

CRC President

Also, here are the links to youtube videos on tar sands:

[www.youtube.com/watch?v=YkwoRivP17A](http://www.youtube.com/watch?v=YkwoRivP17A)

[www.youtube.com/watch?v=5aXo87N6nU&feature=related](http://www.youtube.com/watch?v=5aXo87N6nU&feature=related)

[http://www.youtube.com/watch?v=jA\\_BBGuCs20](http://www.youtube.com/watch?v=jA_BBGuCs20)