

MEMO

SUBJECT: Grounds for a Yes vote on Chevron shareholder resolution requesting a report on the environmental impacts of tar sands operations

DATE: March 13, 2009

CONTACTS: Emily Stone, Green Century Capital Management
(617) 482-0800 estone@greencentury.com

Andrew Logan, Ceres
(617) 247-0700 logan@ceres.org

I. INTRODUCTION

“RESOLVED: Shareholders request that an independent committee of the Board prepare a report, at reasonable cost and omitting proprietary information, on the environmental damage that would result from the company’s expanding tar sands operations in the Canadian boreal forest. The report should consider the environmental implications of a policy of discontinuing these expansions and should be available to investors by the 2010 annual meeting.”

This is the second year this resolution has been submitted. It received 28.6% of the shareholder vote in 2008. Since that vote, the pace of tar sands development has slowed dramatically due to the collapse in oil prices. Concurrently, public outcry against the tar sands’ significant and often irreversible environmental and climate impacts has grown considerably louder, challenging the provincial/state and national governments of Canada and the U.S. to justify the high costs of developing these resources.

Chevron continues to invest heavily in tar sands development and expansion, however, the company has not responded to the significant support for the proposal last year with any additional or improved reporting on the environmental damage of this development. Currently, Chevron is the 60% owner and operator of the developing Ells River Project, an in-situ operation that would use highly energy-intensive steam-assisted gravity drainage (SAGD) to extract bitumen. Chevron also has a 20% interest in the Athabasca Oil Sands Project and is a partner in the \$13.7 billion, 100,000-barrels-a-day expansion of that project.¹

Rationale for a Yes vote:

- **Chevron’s shareholders bear significant financial and competitive risk** if the company continues to invest heavily in the environmentally-damaging and carbon-intensive tar sands operations given existing and impending requirements, and public and competitive pressures, to reduce greenhouse gas (GHG) emissions and to improve corporate environmental footprints.
- **The company has not provided investors with sufficient information to enable them to determine whether the company recognizes and is properly managing the risks associated with its significant tar sands investments.** Chevron fails to mention any risk associated with the tar sands in the company’s most recent Carbon Disclosure Project (CDP) response.² Furthermore, the company did not include any discussion of its tar

sands operations in its most recent sustainability report, nor does it mention any risks associated with tar sands development in the page on its website that discusses company operations in Alberta.³ While other companies such as Suncor have set the standard for disclosure on the tar sands, Chevron has failed to disclose any information on the risks the company may face by investing heavily in expansion of its tar sands operations.

Chevron's interest in the tar sands

Chevron is involved in two separate projects in the tar sands, the Athabasca Oil Sands Project (AOSP) and the Ells River Project. The company holds a 20% interest in the AOSP, a mining development 60% owned and operated by Royal Dutch Shell. Chevron's most recent 10-K report states the company is netting an average 27,000 barrels per day from the AOSP.⁴

Chevron has a 60% operating interest in the Ells River Project, a growing "in-situ" development encompassing a total of 75,520 acres of oil bearing sands with an estimated 7.5 billion barrels of oil in place.⁵ The company has completed an appraisal drilling program and a seismic survey. Chevron has begun another seismic survey for this in-situ project that is expected to be completed in March 2009.⁶

The company has made significant investments in the development of the tar sands and clearly intends to further expand its operations. As a result, Chevron is exposed to substantial risks associated with its current and future operations, particularly in relation to the environmental impacts of these projects, but has failed to demonstrate it is adequately addressing its existing or future liabilities.

Price volatility and the tar sands

Due to its carbon-intensive products and long capital horizons, the oil sector is uniquely exposed to economic, competitive, and regulatory risks resulting from climate change. According to the Pembina Institute and World Wildlife Canada, "A typical oil sands project in Alberta involves billions of dollars of capital investment, has an operations workforce of over a thousand people and a lifespan of over 50 years."⁷

Before the price of oil plunged in 2008, the tar sands were the world's largest industrial project. Companies had planned to spend as much as \$125 billion to expand operations toward the goal of tripling oil production over the next 10 to 15 years⁸. Since that time, at least 23 tar sands projects have been delayed or canceled⁹ and overall spending has been cut in half, which Canada's federal Environment Minister Jim Prentice has dubbed a "de facto moratorium."¹⁰

While prices remain low at present, most analysts expect that they will rebound and stay high enough in the long-term to justify tar sands development.¹¹ Many argue that now is the time to ensure comprehensive assessment and disclosure of risks, so as to ensure successful and profitable development of tar sands in the future.

II. RISKS ASSOCIATED WITH THE ENVIRONMENTAL IMPACTS OF CHEVRON'S TAR SANDS OPERATIONS

Following is a detailed analysis of several key risks faced by Chevron in relation to the environmental impact of its expanding oil sands operations, including regulatory, technological, litigious, and reputational threats. Chevron fails to mention any risk associated with tar sands development in its most recent CDP response and lags behind the industry in reporting on risks in the tar sands. Investors must know which companies are prepared to address and mitigate these risks and which are not. Chevron shareholders seek a report that demonstrates that the company recognizes and is taking steps to address this range of financial and competitive risks related to the environmental impacts of its tar sands operations and provides investors with information on the implications of a policy to discontinue tar sands expansion.

(Note: some information in this memo drawn from the ConocoPhillips memo submitted by Trillium Asset Management)

- **Regulations placing a cost on GHG emissions are increasing in Canada, the U.S., and elsewhere, and new regimes to accomplish GHG reductions are imminent in the U.S. and internationally.**

Canada. Existing and impending regulations at the international, federal and provincial level are placing a cost on GHG emissions and narrowing the market for bitumen. If Canada is to meet its Kyoto obligations, it must impose significant limits on GHG emissions from the tar sands. According to the Pembina Institute, oil sands could contribute 41–47% (36.7–42.7 Megatons) of the projected business-as-usual growth (90 Mt = 830–740 Megatons) in Canada's total annual emissions between 2003 and 2010.¹²

In March 2008, the Canadian government released new climate change regulations that will force new tar sands projects and coal-fired electricity plants to capture and store the bulk of their greenhouse gases. The plan calls for an absolute reduction of greenhouse gases by 20% from 2006 levels by 2020. Specifically for tar sands and coal projects, the plan requires an 18% reduction per unit of production by 2010 and a 2% reduction every year thereafter until 2020. Tar sands projects that have yet to be built would have to capture and store their emissions; those in operation prior to 2004 would be subject to the 18% reduction regime, while more stringent targets would be applied on projects constructed since 2004 and on plants that are in the construction process.¹³ Companies that fail to meet their targets would face prosecution under the Criminal Code.

The Government of Alberta announced its own regulatory framework for industrial GHG emissions in March 2007.¹⁴ In addition to on-site emission reductions, firms can meet their targets by making payments at a rate of \$15/ton into a technology fund or by purchasing offset credits from projects undertaken in Alberta.

British Columbia is a member of the Western Climate Initiative, a regional cap-and-trade system that includes seven U.S. states and four Canadian provinces. BC has received preliminary approval for the legal framework of an eventual cap-and-trade system in the province. BC's February 2008 budget included a revenue-neutral carbon tax on fossil fuels that took effect in July 2008. The tax starts at a rate of \$10/ton CO₂e in 2008 and rises in

annual \$5 increments to reach \$30/tonne in 2012.¹⁵

In February 2009, Alberta's Energy Resource Conservation Board released draft regulations containing tougher restrictions on water usage for operators of in-situ tar sands operators, which also require improved measurements and formal reporting. The agency's manager told the *Edmonton Journal* that companies will have to compete for water and disposal space in the future. Also in February, the Pembina Institute, an environmental think tank with extensive expertise on the tar sands, recommended charging for water used by the energy sector.¹⁶

In a related development, also in February, the Ontario Securities Commission recommended that companies do more to quantify and tell shareholders the costs of meeting environmental regulations.¹⁷

Regulations can also impact the financing of tar sands operations. In December 2008, Reuters reported that HSBC was reconsidering its financing of tar sands projects in light of the possibility that tougher climate regulations could make them commercially unviable.¹⁸

The U.S. President Obama has pledged to reduce the U.S.'s greenhouse gas emissions by 80 percent by 2050. While still a candidate, the president's top energy adviser said that the greenhouse gas emissions from the tar sands projects are "unacceptably high" and may run counter to the administration's plan to shift the U.S. away from carbon-intensive fossil fuels.¹⁹ The president recently compared the tar sands' carbon footprint to that of coal's.

U.S. federal law already contains a provision (Section 526 of the 2007 energy bill) that bars government contracts for alternative fuels, including unconventional petroleum sources, whose lifecycle GHG emissions exceed those of equivalent conventional fuels.²⁰ Under any reasonable interpretation, this would prohibit the US government- the world's largest consumer of energy- from purchasing tar sands-derived fuel. It was widely speculated that during President Obama's February 2009 visit to Ottawa, Prime Minister Stephen Harper of Canada lobbied to exempt tar sands from Section 526 or any further measures that would impact them adversely. From that visit, the U.S. and Canada established a senior-level U.S.-Canada Clean Energy Dialogue to pursue joint work on renewables and carbon capture and sequestration for coal; the tar sands were notable for their absence from that agreement.

Environmental justice advocates are calling on the Administration to use the EPA's Clean Air Act permitting authority to place limits on oil refineries' ability to process heavy crude by mandating that any upgrades be contingent on the refineries using and processing only the same-quality oil as their current feedstock. This would have the effect of excluding tar sands oil from those refineries.²¹

Pressure is building from U.S. cities and states as well. At the US Conference of Mayors in June 2008, participants expressed concern over the environmental effects of the energy derived from tar sands, and signed a resolution calling to ban the use of gasoline produced from tar sands-based synthetic.²²

California officials are crafting the world's first low carbon fuel standard.²³ It will apply to all transportation fuels sold in California, with the goal of reducing the carbon intensity of California's passenger vehicle fuels at least 10 percent by 2020.²⁴ The Regional Greenhouse Gas Initiative, composed of 11 Northeastern states, has announced plans to issue a similar standard by the end of 2009.²⁵ Some members of Congress want to replicate California's plan to impose low-carbon fuel standards that target not just tailpipe emissions but also those that occur during production, which could put a surcharge on tar sands crude unless producers cut emissions.²⁶

It is important to note that the United States is, and will remain for the foreseeable future, the only significant viable market for tar sands output, and so regulations which restrict the carbon content of fuels represent a significant risk for tar sands producers.

- **Lack of current and effective technology presents a challenge to companies that depend on the future availability of this technology for carbon mitigation.**

Chevron and its industry peers, along with governments worldwide, are pushing carbon capture and sequestration technology (CCS) as a solution to the tar sands' heavy GHG emissions. In February, Alberta committed \$2 billion to help fund carbon capture projects. Several billion dollars for "clean energy technology" that may include CCS were provided in the recent American Recovery & Reinvestment Act. There are at least twenty companies vying for the funds.²⁷ Chevron has said that it plans for CCS to be "a significant part of the Ells River project."²⁸

While CCS has shown some promise in pilot projects, it is open to question whether the technology will be affordable or scalable to the challenge provided by tar sands emissions. In November 2008, the Canadian Broadcasting Company published notes prepared by a federal carbon capture task force indicating little internal confidence in CCS for the tar sands. The notes illuminated concerns that only a small percentage of CO₂ is capturable because the CO₂ stream generated by tar sands production is diffuse (compared to, for example, an IGCC power plant); only limited near-term opportunities exist; the projects will be expensive; and the government will have legal liability for stored CO₂.²⁹

The high cost of CCS makes industry and government alike wary about its overall benefit. In March 2009, *The Economist* published an article discouraging subsidies for CCS, calling the technology "a potential waste of money," and warning that the cost of CCS is not likely to decrease even if the technology does eventually become operational on the industrial level.³⁰

- **Increasing litigation of tar sands development could present a risk to companies by blocking development permits.**

The Canadian government received internal briefings two years ago warning of lawsuits due to failures in environmental assessments of the tar sands.³¹

In February 2009, Syncrude was charged by both the Albertan and federal government for failing to prevent the death of 500 ducks in a company tailing pond. If convicted, executives may be sent to jail for a maximum of six months and the company may face fines up to \$800,000.³² The high media profile of this case also presents potential reputational damage to the company.

In March 2008, the Beaver Lake Cree Nation filed suit against Alberta, calling for an injunction to block more than 16,000 permits related to tar sands development. The Cree say that the development is destroying their hunting and fishing lands. In February 2009, the Co-operative Bank (UK) announced that it would provide US \$71,000 to fund evidence-gathering for the case.³³ Separately, a judicial review is underway of an oil sands development application being granted without any First Nations consultation, which would run contrary to the precedent of case law – the likely result will be that consultation did not occur and that a remedy must occur.

According to the Canadian Boreal Initiative (CBI), the resolution of these cases will have tremendous impacts in shaping how the government discharges its obligations to consult and accommodate First Nations under the constitution.³⁴ The level of engagement required is linked to the level of the impacts. There is always a duty to consult at a minimum, but there is also a requirement to accommodate affected First Nations. This duty, which increase with increasing impacts, falls on a spectrum, ranging from ‘consulting to inform’ at the low end, to outright consent at the high end. Because of the significant impacts they create, major oil sands projects are likely to trend towards the high end of this spectrum.

Many legal opinions hold that the Government of Alberta has not been meeting the standards to consult and accommodate First Nations as required by legal precedent, according to the CBI. If these opinions are confirmed by the courts in present and future litigation, companies with permits granted by the Alberta province may find them nullified by this lack of consultation. If the courts place an absolute limit on infringement of First Nations rights (the remedy sought in the Beaver Lake case), then the province’s decision-making processes will take considerably more time.

First Nations are starting to speak out collectively with the message that development is occurring too fast. They are calling for new development to be halted in order to grant them time to figure out how to deal with existing impacts, and to plan for any future developments.

Enbridge Gateway Pipelines Inc.’s proposed pipeline from Alberta’s tar sands to a deep sea port on the coast of British Colombia has been delayed in part by challenges from indigenous groups related to their title to the land and environmental assessments.³⁵ Pipelines such as this one are key to bringing oil sands product to the U.S. market and U.S. refineries, but their development faces serious challenges, including legal risk from the many First Nations who live in territory crossed by the pipeline.

- **There are reputational risks to tar sands companies in pursuing energy sources that involve such immense environmental damages.**

The combined result of the environmental, regulatory and legal risks identified above has been a public relations disaster for oil companies with tar sands operations. Since we began following the issue two years ago, negative articles on tar sands have been too numerous to track. To highlight a recent article, the current issue of *National Geographic* features a 20-page story on the tar sands including striking color photographs depicting the scope, technology and damage of tar sands operations.³⁶

Chevron is exposed to reputational risk on multiple fronts because of its involvement in both mining and in-situ projects. While mining projects are most visibly destructive, as

documented in *National Geographic*'s article, in-situ development is more carbon-intensive, and has significant environmental impacts. The Pembina Institute, a widely-recognized authority on tar sands' environmental impacts, recently published a report stating: "Although *in situ* recovery is less destructive than open pit mining, it is significantly more damaging than conventional oil extraction methods."³⁷ The impacts include increased greenhouse gas emissions, high water use, massive deforestation from the spread of pipes and well pads, habitat destruction and air pollution.

In 2008-09, public pressure increased immensely against tar sands development. Environmental and First Nations organizations conducted a high visibility campaign in Canada and the U.S. to coincide with President Obama's meeting with Canadian Prime Minister Stephen Harper in February 2009. Events included a direct action by Greenpeace activists, who scaled a bridge in Ottawa to unfurl two large banners facing Parliament, and a full-page ad in *USA Today* and other papers by the Mikisew Cree, Athabasca Chipewyan and Forest Ethics warning about the environmental and social hazards of the tar sands. As noted above, the resulting agreement between the two governments did not include any future cooperation on the tar sands.

In January 2009, Bishop of St. Paul Luc Bouchard (Alberta) released the pastoral letter "The Integrity of Creation and the Athabasca Tar sands," which examined the environmental and social footprint of the tar sands. The letter states: "I am forced to conclude that the integrity of creation in the Athabasca Tar sands is clearly being sacrificed for economic gain. The proposed future development of the tar sands constitutes a serious moral problem. ... The present pace and scale of development in the Athabasca tar sands cannot be morally justified."³⁸

In August 2008, three influential environmental organizations pulled out of the 44-member, multi-stakeholder Cumulative Environmental Management Association (CEMA), which was convened in 2000 to study the cumulative environmental effects of industrial development in the region and produce guidelines and management frameworks. In a press release, the Pembina Institute, the Toxics Watch Society of Alberta and the Fort McMurray Environmental Association cited as their reason, "eight years of effort and consistent failure to meet deadlines for recommending systems to protect the region's environment, [and as a result] CEMA has lost all legitimacy as an organization and process for environmental management in the tar sands." A Toxics Watch Society spokesperson said, "we can no longer legitimize a process that both the tar sands industry and government have been using as a shield to deflect criticism about the cumulative environmental impacts of tar sands development." The organizations endorsed a suspension of new tar sands approvals and lease sales until interim environmental limits and management systems are in place.³⁹

In [a Spring 2007 survey](#)⁴⁰ commissioned by the Pembina Institute, pollsters found widespread concern about the environmental impacts of tar sands development among citizens of Alberta:

- 71% of Albertans agreed with the statement, "The Government of Alberta should suspend new tar sands approvals until infrastructure and environmental management issues are addressed in the tar sands region,"

- 88% agreed with the statement, “New tar sands mines should only be approved if companies can demonstrate that they can return mined areas back to the way they were before mining began,” and
- 70% favored total over intensity-based GHG reduction targets, “even if it costs industry more.”

In a recent poll conducted by the Canadian Petroleum Producers Association, an industry group, half of the Canadians surveyed stated that they distrust tar sands executives.⁴¹

The CEO of ConocoPhillips admitted in 2007 that the industry has an image problem, noting that in surveys “the oil industry ranks last – last in credibility even behind tobacco.” The *Wall Street Journal* noted recently that the industry’s poor image is hurting its ability to attract young employees to replace its increasingly aging workforce – a crisis that Ernst & Young recently called the greatest risk to the oil industry.

In November 2007, the *Financial Post* reported that Canadian oil companies’ “poor public image...is costing them billions in adverse government decisions. In the past year alone, the Canadian oil sector, or large factions within the sector, arguably lost every public policy battle it engaged in.” The author attributes the poor public image, among other factors, to the industry’s perceived environmental and social irresponsibility.⁴²

III. CONCLUSION

Growing regulatory action in Canada and the United States, public sentiment across the continent, and recent Canadian court cases suggest that the tar sands industry as a whole is placing itself at greater risk by not addressing these issues in an aggressive and transparent way. Chevron faces serious risks associated with its current projects and especially considering its plans for expanding both in-situ and mining operations. Furthermore, the company lags behind its industry peers—particularly Suncor—which provide comprehensive and transparent disclosure of risks associated with tar sands projects and expansion.

Investors are not being given adequate disclosure as to how the significant risks embedded in tar sands operations will be managed. Chevron should publish a report on the environmental damage of expanding its tar sands operations. Investors must vote “Yes” in support of this resolution.

¹ “UPDATE: Chevron: Tar sands expansion costs jump to 13.7 billion,” *Dow Jones*, 2/27/09

http://news.morningstar.com/newsnet/ViewNews.aspx?article=/DJ/200902271221DOWJONESDJONLINE000846_univ.xml

² www.cdproject.net

³ <http://www.chevron.com/deliveringenergy/oilsands/>

⁴ <http://investor.chevron.com/phoenix.zhtml?c=130102&p=irol-SECText&TEXT=aHR0cDovL2NjYm4uMTBrd2l6YXJkLmNvbS94bWwvZmlsaW5nLnhtbD9yZXBvPXRlbmsmaXBhZ2U9NjE2NTM3MyZhdHRhY2g9T04mc1hCUkw9MQ%3d%3d>, page 21.

⁵ “Chevron in Canada: Alberta Tar sands” <http://www.chevron.ca/operations/exploration/oilsands.asp>

⁶ <http://investor.chevron.com/phoenix.zhtml?c=130102&p=irol-SECText&TEXT=aHR0cDovL2NjYm4uMTBrd2l6YXJkLmNvbS94bWwvZmlsaW5nLnhtbD9yZXBvPXRlbmsmaXBhZ2U9NjE2NTM3MyZhdHRhY2g9T04mc1hCUkw9MQ%3d%3d>, page 21.

⁷ *The Oil Sands Report Card*, Pembina Institute and World Wildlife Canada, 2007, p. 3.

⁸The figure of \$110 billion appears in “Tar sands Mega-Project Scrapes Bottom of Oil Barrel,” Inter Press Service, 7/28/06; \$125 billion (Canadian) is cited in *Driving It Home: Choosing the Right Path for Fueling North America's Transportation Future*, Natural Resources Defense Council, p. 19.

(<http://www.nrdc.org/energy/drivingithome/drivingithome.pdf>)

⁹ “Slump trims forecast for Canadian tar sands,” *Oil and Gas Journal*, 3/2/09.

http://www.ogj.com/pdf_temp/354710.pdf

¹⁰ “Boom and Bust in Alberta,” *Globe and Mail*, 01/31/09.

¹¹ Ibid. Estimates vary on the breakeven price per barrel for tar sands development. The Canadian Energy Research Institute estimated last fall that new tar sands projects require global oil prices between C\$90-100 over the next thirty years (“Canadian Tar sands Supply Costs and Development Projects (2008-2030),” Study No. 118, November 2008). Andrew J. Leach, a professor of environmental economics at the University of Alberta in Edmonton, estimates that long-established plants can operate with prices as low as \$30 a barrel, and that newer operations need \$60 to \$70 a barrel for acceptable returns, but said that no one will proceed with proposed projects until prices return to the \$80 to \$90 range. (“The Costly Compromises of Oil From Sand,” NYT, 1/6/09)

¹² *Carbon Neutral 2020: A Leadership Opportunity in Canada's Oil Sands*, Pembina Institute (October 2006), p. 9.

¹³ “Tough new green plan targets tar sands,” *Globe & Mail*, 3/10/08.

¹⁴ <http://environment.alberta.ca/1319.html>

¹⁵ *Choosing Greenhouse Gas Emission Reduction Policies in Canada*, October 2008, prepared by the Pembina Institute for Don Drummond, TD Bank Financial Group, p. B 7-9.

¹⁶ “Oilpatch to see new rules on water use -- Proposal calls for lower consumption,” *The Edmonton Journal*, February 18, 2009.

¹⁷ OSC Staff Notice 51-716, Environmental Reporting, February 27, 2009. at

http://www.osc.gov.on.ca/Regulation/Rulemaking/Current/Part5/sn_20080229_51-716_enviro-rpt.jsp.

¹⁸ “HSBC to curb palm oil lending, review tar sands,” Reuters, 12/2/08.

¹⁹ “Obama Compares Tar sands to Coal,” Associated Press Worldstream, February 18, 2009.

²⁰ “Climate Change: Taking Stock of Industrial Emissions,” Greenwire, 3/3/08.

²¹ “Activists Seek EPA Permit Provisions To Limit Heavy Crude Refining,” *Energy Washington Week*, February 25, 2009.

²² http://www.usmayors.org/usmayornewspaper/documents/06_16_08/pg9_res_energy.asp.

²³ See Footnote 23.

²⁴ Pew Center on Global Climate Change (<http://www.pewclimate.org/node/5980>).

²⁵ “RGGI States to Develop Low Carbon Fuel Standard,” ClimateBiz.com, January 6, 2009.

²⁶ “The Kindler Gentler Superpower,” *Globe & Mail*, 2/28/08.

²⁷ “Alberta laying down rules for carbon,” *Calgary Herald*, 2/25/09.

²⁸ Conversation with David MacInnis of Chevron Canada, 12/12/08, San Ramon, CA.

²⁹ “Little Gain from Tar sands Carbon Capture Report,” 11/25/08, Reuters.

³⁰ “The Illusion of Clean Coal,” *The Economist*, 3/5/2009.

http://www.economist.com/research/articlesBySubject/displayStory.cfm?story_id=13235041&subjectID=348924&fsrc=nwl

³¹ Email communication from Simon Dyer, Pembina Institute, 03/07/08; “Environment Canada expecting oilsands lawsuits,” Canwest News Service, 3/02/08

³² “Oilsands firm charged over duck deaths,” *The Calgary Herald*, 2/9/2009.

³³ “Co-op to help fund tar sands legal fight,” *Financial Times*, 2/26/09.

³⁴ Presentation by Larry Innes, Executive Director, 9/11/08.

³⁵ “PetroChina walks away from Gateway,” *Globe and Mail*, 7/12/07.

³⁶ “Scraping Bottom,” *National Geographic*, March 2009. <http://ngm.nationalgeographic.com/2009/03/canadian-oil-sands/kunzig-text>

³⁷ *Death by a Thousand Cuts: Impacts of In Situ Tar sands Development on Alberta's Boreal Forest*, The Pembina Institute, August 2006, pp. vii – viii.

³⁸ The Bishop explained: “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 tar sands 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.” (The Integrity of Creation and the Athabasca Tar sands: A Pastoral Letter on The Integrity of Creation and the Athabasca Tar sands to The Faithful of the diocese of St. Paul by Luc Bouchard, Bishop of St. Paul in Alberta, Canada, January 25, 2009.)

³⁹ <http://alberta.pembina.org/media-release/1678>.

⁴⁰ “Backgrounder: Albertans’ Perceptions of Tar sands Development: Poll,” 05/08/07 (http://pubs.pembina.org/reports/Poll_Env_mediaBG_Final.pdf).

⁴¹ Canadian Association of Petroleum Producers press release, January 8, 2009.

⁴² The article continues: “It failed to sway the federal Tories to reverse their decision to tax oil and gas trusts; it lost the climate change debate; it lost the accelerated capital cost allowance federally and provincially; a consortium led by Imperial Oil Ltd. failed to convince the federal Tories they should gain fiscal breaks to build the McKenzie pipeline; it lost the energy policy debate with Newfoundland and it lost the royalty debate in Alberta.” (“Poor Public Image Has Cost Oilpatch Billions,” *Financial Post* (Canada), 11/07/07)