

# Toxic LIABILITY

September 2010

## FACT SHEET

RECLAMATION • TAILINGS CLEANUP • UNDERFUNDED SECURITY

## How Albertans could end up paying for oil sands mine reclamation

*The pace and scale of oil sands mining continues to increase in Alberta despite a poor understanding of the environmental liabilities: the costs associated with the environmental impacts throughout the life of the mine. In Toxic Liability, the Pembina Institute has compiled the first public estimate of these liabilities. The calculations are based on information gathered from the public domain, expert interviews and academic sources.*

Over their 30 to 50 years of operation, oil sands mines have had significant environmental impacts, including emissions of greenhouse gases and other pollutants, surface water withdrawals, contamination and disruption of groundwater, toxic seepage from tailings lakes into groundwater, habitat fragmentation and impacts on wildlife.

To mitigate some of these impacts, oil sands mining companies are required to reclaim the land that has been disturbed during the mining process. Companies budget to pay for costly reclamation, which is supposed to occur as a company develops a mine. The cleanup bill for mine disturbances is potentially immense.

Alberta requires all oil sands operators to post a security deposit with the provincial government to fund reclamation in the event an operator is unable or unwilling to pay for reclamation. However, because of the lack of transparency about the true costs of reclamation, the public doesn't know whether or not the current security deposits are adequate.

Photo: David Dodge, The Pembina Institute



### Are Albertans protected? Costs could be 24 times higher

In 2009 the total oil sands security in the Environmental Protection Security Fund was \$820 million for 68,574 hectares of disturbed land, or only \$11,964 per hectare. However, based on the limited government and industry data available, the Pembina Institute conservatively estimates the cost of reclaiming this disturbed land will be \$10-\$15 billion, or approximately \$220,000 to \$320,000 per hectare.

### Public will carry burden of reclamation failure

A reclamation security program is supposed to ensure that industry, not the public, is responsible for any unforeseen reclamation liabilities. If the program is underfunded, however, taxpayers might be on the hook for cleanup costs. Our report *Toxic Liability* suggests the underfunded security program could be exposing each Alberta taxpayer to a tax liability of \$4,300 to \$6,300.



Photo: David Dodge, The Pembina Institute

## How much must be reclaimed?

Total disturbed area by oil sands mining (2009):  
686 square kilometres

Total area of tailings lakes (2010):  
170 square kilometres

Total volume of tailings (2010):  
840 million cubic metres

## What about the security policies we have now?

### 1. Policies lack transparency.

Information about the liabilities of individual companies and about how estimates are calculated is not publicly available.

### 2. Policies provide insufficient security.

#### How much will it cost?

Projected actual reclamation cost of current disturbance:

Land: \$1.4 billion to \$3.7 billion

Tailings: \$8 billion to \$10 billion

#### How much has been set aside?

Current financial security (2009):  
\$820 million

#### What could taxpayers end up paying?

Potential shortfall (including standard 20% contingency):

\$10 billion to \$15 billion

Potential liability per Alberta taxpayer:  
\$4,300 to \$6,300

### 3. Policies use a narrow definition of environmental liabilities.

Many liabilities, such as initial land disturbance, post-reclamation maintenance and groundwater and plant-site contamination, are not showing up on the economic balance sheet for oil sands mine development.

# The costs of cleanup

## Current security policies are inadequate

The government's reclamation security policy is supposed to ensure that sufficient money has been set aside to pay for the cleanup.

Our analysis has found, however, that current security policies

- lack transparency
- provide insufficient security
- use a narrow definition of environmental liabilities

## "TRUST US"

In a time when industry and government claim to want to talk about facts, surprisingly little information on reclamation costs is available to the public. How can Albertans and investors know that either the companies or the province has enough money to pay for reclaiming an oil sands mine?

- Alberta Environment is supposed to ensure reclamation security estimates are accurate, but information about how estimates are calculated is not publicly available.
- Companies are reluctant to provide public information on estimated or actual reclamation costs.
- Alberta Environment has no formal policy to use accounting safeguards to verify the data submitted by mines.

Improved transparency will be critical to regaining the trust of an increasingly critical public.

## INSUFFICIENT SECURITY

As of 2009 Alberta Environment had collected \$820 million in reclamation security from oil sands mines for 68,574 hectares of disturbed land. Acknowledging the limited public information on reclamation costs, the Pembina Institute estimates the actual cost to reclaim that amount could actually be as high as \$15 billion. After 40 years of mining the underestimation has amounted to \$6,300 of potential liability per Alberta taxpayer.

Another important point is that security deposits are paid on individual mining projects and can only be used to draw for the reclamation of that mine — security deposits from other mines cannot be used.

## INCOMPLETE BALANCE SHEET

Environmental impacts create environmental liabilities throughout the life of the mine — liabilities with a real financial cost. Our analysis shows that many liabilities, such as initial land disturbance, post-reclamation maintenance, groundwater disruption and contamination, and plant-site contamination, are not showing up on the economic balance sheet for oil sands mine development.

Industry and the Government of Alberta are quick to point out the economic benefits of oil sands mining, but they are reluctant to discuss the financial and environmental liability that has accrued during the past 40 years. Responsible development of the oil sands needs to consider both the benefits and the costs.

◀ The cost of cleaning up all the land disturbed by oil sands mining could be as high as \$3.7 billion, while tailings lake cleanup could cost up to \$10 billion. The reclamation security that has been posted against these cleanup costs was only \$820 million as of 2009.



Photo: David Dodge, The Pembina Institute

# Fair and open

## Industry must show it can clean up its own environmental damage

### Unwelcome inheritance

Underestimating the costs for cleanup could create a large environmental and financial debt for our children and grandchildren. Many of the environmental problems current operators are facing began two generations ago. Which generation will be left paying for today's environmental impacts?

### Albertans want polluters to pay cleanup costs

Passing on the financial risks associated with cleaning up an oil sands mine to taxpayers is clearly unacceptable to Albertans. A June 2010 public opinion poll found that 96% of Albertans agree companies operating in the oil sands should be held liable for all environmental damages caused by their operations.

### Uncertain investments

Investors are becoming increasingly concerned about inadequate disclosure of liabilities. The recent sub-prime mortgage crisis as well as the Enron and WorldCom scandals are all evidence of the dangers of

not having thorough disclosure policies. For oil sands investors to make wise decisions and minimize uncertainties, financial reporting of assets and liabilities must be accurate and transparent.

### Warnings repeatedly ignored

The inadequacy of Alberta Environment's mine reclamation security program has been known for many years. The provincial government's own watchdog, the Alberta auditor general, has raised concerns four times in the last eleven years. The 1998-1999, 2000-2001, 2005-2006 and 2009 Alberta auditor general reports all expressed concerns about inconsistencies in the application of the oil sands mine reclamation security program, the failure of oil sands operators to properly estimate reclamation costs and the lack of government response to the auditor general's concerns.

*With the passage of time, the Ministry continues to be exposed to the risk of obtaining inadequate security resulting in additional costs to the province.*

— 2004/2005 Annual Report of Auditor General of Alberta

## Who should pay?

Almost all Albertans (96%) agree companies operating in the oil sands should be held liable for all environmental damages caused by their operations.

## Taxpayers paid to clean up mine

Twenty-five years of zinc and lead extraction has led to an estimated \$450 million in environmental liabilities at the Faro Mine in the Yukon Territory, one of 10,000 un-reclaimed or abandoned mines in Canada. The mining company that operated Faro Mine declared only \$93.8 million in liabilities shortly before going bankrupt. Nearby water sources contaminated with acid and heavy metals from the mine require continuous treatment. There is also the potential for a tailings dam failure. The estimated cost per hectare is \$180,000, but the government had only collected \$5,600 per hectare in security. The difference is being paid for by Canadian taxpayers. Cleanup is expected to take 40 years.

## Recent reclamation successes overshadowed by size of disturbance

Oil sands mines have made several major breakthroughs in recent years. Syncrude's 104-hectare Gateway Hill was the first land to be certified by the government as reclaimed. Suncor is on track to reclaim its Tailing Pond 1,

and Shell has recently unveiled AFD technology that it will use to reclaim its tailings lakes. While these successes are noteworthy, they are small in comparison to the pace and scale of disturbance from oil sands mines.

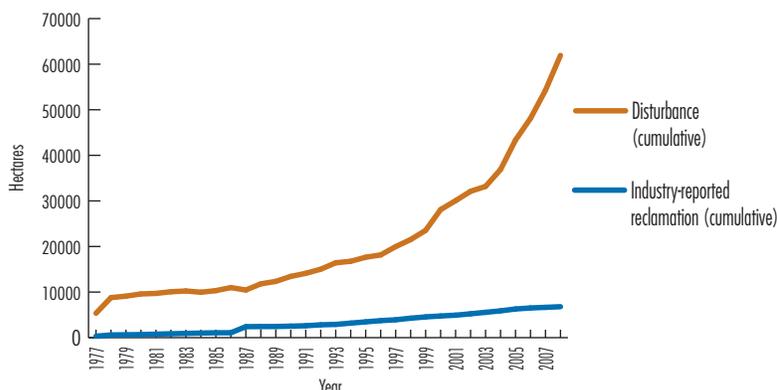


Photo: Suncor Energy

▲ Suncor is transforming the company's 220-hectare Tailings Pond 1 into mixedwood forest and a small wetland.

## DISTURBANCE VS. RECLAMATION

Note: What is being reported as "reclaimed" is unclear and, to our knowledge, has not been verified by Alberta Environment.





## Summary of recommendations

*Many opportunities exist for the Government of Alberta to improve oil sands mine liability management and to demonstrate environmental leadership and fiscal prudence. For details on these points and other recommendations see the full report, Toxic Liability.*

**Convene a public consultation on reclamation security deposits.** Thorough public consultation was done during the development of Alberta's Environmental Protection and Enhancement Act and the recent Water for Life strategy. The Government of Alberta should conduct a similar review on the process of calculating, auditing, collecting and managing security deposits.

**Provide online access to reclamation security calculations.** Sharing the methodology behind the estimates will demonstrate transparency, improve trust among shareholders and stakeholders, and increase the credibility of Alberta Environment as the environmental regulator of the oil sands. This improved transparency can be accomplished without compromising proprietary information.

**Require third-party verification of mine liability estimates.** Third-party verification acts as a safeguard if mine liabilities are significantly underestimated. By requiring this additional measure, Alberta Environment can demonstrate a fiscally conservative approach to mine liability management.

**Expansion of liability coverage.** Just as all oil sands mines in Alberta must account for greenhouse gas emissions, these mines should also account for all reclamation liabilities. Expanding liability coverage will create a more accurate and reliable balance sheet for companies and investors.

**Create a staged reclamation certification process.** This provides standardized evidence that reclamation is proceeding, assisting industry to maintain their social licence and providing justification for returning a portion of the collected security. Transfer of liability to the Government of Alberta would still only occur with a final reclamation certificate, and companies would still have access to and control of land before final certification.

**Enhance liability disclosure in company annual public financial reports.** Investors need an accurate understanding of a mine's liabilities. Requiring mine operators to report the lifespans of all operational assets and providing clarity on feasible technologies will improve current practices.

▲ To assure taxpayers and investors that environmental liabilities from oil sands mining are adequately covered, the Government of Alberta should improve the process of calculating, auditing, collecting and managing security deposits.

## A chance to improve

At the time of writing, the Government of Alberta is in the process of approving a revamped Mine Financial Security Program, although these changes have been developed behind closed doors with industry.

Meaningful steps need to be taken to ensure that transparency of reclamation security is increased and that the security held by the Government of Alberta is sufficient.

## Want More Information?

For more information and a complete list of recommendations, download our full report *Toxic Liability: How Albertans Could End Up Paying for Oil Sands Mine Reclamation* from [www.oilsandswatch.org](http://www.oilsandswatch.org). There you will also find photos, videos and other information and reports on oil sands.

This report was prepared by Nathan Lemphers, Simon Dyer and Jennifer Grant of the Pembina Institute ([www.pembina.org](http://www.pembina.org)).