The Oil Drum: Canada
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Tar Sands: The Oil Junkie's Last Fix, Part 1

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This is a guest post by Chris Nelder. It was originally written for Friday's Energy and Capital. Part II will be available next Friday.

For this week's article, I collaborated with energy journalist Roel Mayer, a freelance writer on earth, energy and economy, based in Canada. Roel is a keen observer on energy, and the Canadian tar sands in particular, so he was a natural research partner for this short study on the state of oil production from tar sands.

He was also the one who coined "The Law of Receding Horizons." For those who missed my previous articles on receding horizons, it is a simple concept: as the cost of energy rises, the cost of everything else made with energy (like building materials) also rises. So an energy project which was expected to be profitable when energy costs were x amount higher than today, turns out to still be uneconomical when you get there.

Shallow oil sand deposits in open pit mining: yes, this was a boreal forest from time immemorial.

And the tar sands of Alberta are shaping up to be the oil industry's poster child of this phenomenon. With oil well over $60 today, the low-grade sludge called kerogen that we recover from tar sand--actually more like a putty, at room temperature, which is why I refuse to use the

whitewashing term "oil sands--should be highly profitable.

But paradoxically, the impending decline of global crude oil production, which is now coming clearly into view, has led to a mad rush to produce the tar sands. And this, in turn, has led to skyrocketing costs...such that now, the real "profit" in producing the tar sands seems to be in government tax breaks, not in actual profit on the resource itself.

In fact, the Canadian tar sands operations are facing a whole host of challenges, beyond economic--so much so, that one wonders why we try to harvest them at all.

In an area the size of Florida, Alberta's tar sands are said to hold 315 billion barrels of crude oil.

But trying we are: according to the respected energy analytics firm Wood Mackenzie (WoodMac), about $117 billion is going to be spent on the tar sands by 2015.

Let's look at some of the challenges.

Cost Inflation

In a fine demonstration of the receding horizons paradox, WoodMac issued a report in March entitled "The Cost of Playing in the Oil Sands," which showed a 55% cost increase since 2005 for a peak flowing barrel of oil derived from the tar sands.

They further noted that in 2006 alone, many of the large tar sands developers announced cost increases and project delays, as they experienced an average 32% cost increase for integrated mining projects, and a 26% increase for in situ projects.

For example, last year Shell Canada shook investors when it revealed that its Athabascan tar sands operation would cost $11 billion Canadian to expand its operation by only 100,000 barrels per day-six times the original cost estimate, which was made only about eight years earlier.

Around the same time, a research report by Merrill Lynch said the cost increase would mean that the Athabasca project would only make about a 10% return on its investment if oil were to remain

at least $50 per barrel!

WoodMac analyst Conor Bint issued a clear warning about the tar sands' receding profitability horizon, saying, "Companies in the oil sands will have to control capital expenditures going forward to ensure that project breakeven prices do not exceed current levels in order to remain profitable."

And what are the cost-inflating culprits, according to Bint?

The usual litany: labor shortages and skyrocketing material costs. "With the sheer number of oil sands projects together with the future arctic pipelines and conventional oil and gas developments in Alberta, labour demands in Canada will be pushed to their limits."

Which sort of calls bullshit on their helpful tip that good project management and contractor scheduling will help keep costs in line. No doubt, you must carefully watch your labor hours when your typical field hand is pulling down "combat pay" in the six figures. But that isn't going to help you a bit when tires, steel, machines, and basic metals are all going through the roof under the crush of increasing global demand, primarily driven by Asia, and primarily due to high oil costs. For example, the price of steel is up 70% in just the last five years.

In a recent essay on the cost inflation of conventional oil projects ("Upstream Economics and the Future Oil Supply"), oil analyst Dave Cohen made the shrewd observation that "the situation presents a classic Catch-22," where "the cure for industry inflation is a slowdown in upstream activity, whereas the initial goal was to accelerate upstream development to meet growing global oil demand."

Cohen notes that the cost of finding and producing oil has outpaced the growth in the price of oil. While oil has risen about 32% since 2005, costs have increased about 79%.

Given that the cost of finding and producing conventional oil is in the neighborhood of one-fifth that of producing tar sands, this is not an investment-friendly scenario.

Finance

Naturally, the aforementioned factors are leading to questions about the long-term viability of the tar sands industry, and slowing the pace of financing for its projects.

For not only are costs rising, they're rising faster every year, across the board: for labor, materials, and energy. And in all likelihood, taxes and pollution-related costs will soon join the list.

Each of these trucks weighs more than two 747 airplanes. "It's like driving your house downtown."

For example, Canadian Natural Resources Ltd. said in March it wouldn't move forward with its plans to build an upgrader plant due to runaway costs, and Synenco Energy Inc. shelved its upgrader in May. Likewise, last year France's Total SA announced that it was pushing its tar sands project back by three years, again due to soaring costs for labor and materials.

"I don't think it's an anomaly," says Mark Friesen, a Calgary-based analyst at FirstEnergy Capital Corp. "I think it's an indication of how difficult the environment is. If we're not careful, more projects may end up being delayed or cancelled."

Delays are now becoming endemic to tar sands operations. Major equipment such as cokers and metallurgical towers now have waiting times of two years or more, more than double the wait of three years ago. (Now there's an obvious investment opportunity.)

A shifting landscape of taxation also dogs tar sands ambitions. The removal this year of a significant tax advantage for Canada's income trusts, which have been among the largest backers of tar sands projects, caused Canadian Oil Sands, one of the largest trusts, to post its first net loss in its 10-year history.

An accelerated capital cost allowance that was initially offered to drive investment in the sands has also been removed this year, which should net the federal government an additional $1.4 billion or so.

But perhaps the biggest financial threat is a change in the royalty rates. For over a decade, Alberta sought to attract financing by offering a mere 1% royalty rate until the initial costs of the projects are paid off, at which point the rate reverts to 25%.

It's no surprise then that tar sands developers appear to be gaming the system by extending their "initial" investment in phases over a period of years, effectively stretching out the time they can take advantage of the 1% rate.

That rate typically translates to less than 50 cents on a $70 barrel for Alberta's coffers. On the roughly $15 billion in tar sand revenue in 2004, Alberta took home only $700 million. And the $905 million that Alberta took in last year was actually less than it garnered from lotteries.

Consequently, Alberta is eyeing some additional changes to its tax structure for tar sands. It doesn't want to be accused of bait-and-switch tactics, but it's also facing the aforementioned increasing costs for all public services. At the same time, it is looking at an overall decline in income, due to the winding down of its conventional oil and gas operations, which pay up to 40% in royalty rates.

And let's face it: given the immense challenges ahead of us for liquid fuels, thanks to peak oil, and the desperation of oil companies to find anything worth investing in at this point, a 1% royalty rate seems an outright steal of natural capital from the people of Canada. No wonder that a public consultation process on the taxation of tar sands projects is now under way.

If the royalties on the tar sands were allowed to rise to anywhere near the normal levels for oil-around 40%, not 1%-the entire industry would cease to be. The profit would vanish, simple as that.

Next week, we'll look at the rest of the tar sands' troubles: water, energy, labor, and the environment.

Until next time,

Chris

Many thanks to Roel Mayer for his contributions to this piece.

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