

The Canadian Institute of Resource Law : Saturday Morning at the Law School

PROPOSED COAL MINING IN ALBERTA: WHAT HAPPENS NEXT?

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COAL BASICS

- Coal: Thermal and Metallurgical
- Thermal Coal: A Long Goodbye
- Metallurgical Coal: What Value Remains?

Coal: Thermal and Metallurgical

- Thermal coal is burned to generate electricity.
- Metallurgical coal (or steelmaking coal or coking coal) is used in the process of refining iron ore into steel. The quality and specific properties of the coal can heavily impact price.
- Although named for their uses, the differences are in the physical properties of the coal. There is no way to use thermal coal as metallurgical coal, it will not produce the coke needed for steel making. (You could use metallurgical coal for power generation, but it would not make any economic sense.)
- Alberta's thermal coal was found throughout the prairies and the metallurgical coal is entirely found in the Rockies due to the geological processes of coal formation.
- Both types of coal release large amounts of CO₂ when used. Neither is environmentally friendly.

Thermal Coal: A Long Goodbye

- The high point of thermal coal as an energy source is long gone. By the 1950's oil and gas was replacing coal as the dominant energy source. Thermal coal remains in significant use in developing countries and still contributes about 30% of global GHG emissions per year.
- Thermal coal is being phased out of use because of its environmental impacts. Alberta expects to phase out the use of thermal coal in-province by 2023, and the federal government plans to stop exporting thermal coal by 2030 or sooner.
- In June 2021 the federal government announced a policy that “any new thermal coal mining projects, or expansions of existing thermal coal mines in Canada, are likely to cause unacceptable environmental effects.” which effectively means such projects will not be able to receive the necessary federal approvals to go forwards.

Thermal Coal: The Remainder in Alberta

- In the month of October 2021 (the most recent month with statistics from the AER) Alberta produced and burned about a half a million tonnes of thermal coal from 7 mines, around $\frac{1}{4}$ of the thermal coal mined and used per month in 2016.
- One thermal coal mine, Vista, intends to expand if they can get the approvals to do so. The company intends to complete a restructuring under the *Companies' Creditors Arrangement Act* this month. Vista is litigating against the federal government in relation to the approvals for the planned expansion.
- There are no major policy questions left for the industry in Alberta. Unless there is a sudden unanticipated change, the industry is winding down.
- I note the thermal coal industry has not given up, and their lobbyists are promoting carbon capture technology as a plausible way forwards for the thermal coal industry.

Metallurgical Coal: The Albertan Situation

- Much of Alberta's metallurgical coal industry shut down in the early 1980's because of insufficient demand, and issues with the lower coking quality of Alberta mines compared to B.C. and other suppliers. Current renewed interest started with Benga around 2015.
- Alberta currently has no operating metallurgical coal mines – Teck's Cardinal river ended production in June 2020, and the Grande Cache mine has been inactive since May 2020.
- B.C. does produce a significant amount (around 9 million metric tonnes a year) of metallurgical coal from Teck's mines in the B.C. side of the Rockies. Teck anticipates having around 28 years of reserves, and the coal is of generally higher quality than the coal on the Alberta side.

The Proposed Metallurgical Coal Mines

Hancock/Riversdale/Benga's Grassy Mountain Coal Mine

- The mine planned to operate for 23 years and produce 4.5 million tonnes of coal a year.
- The mine was rejected by the provincial and federal regulators in 2021, largely for being unable to show they could control water pollution and impacts on species at risk, and concerns the mine would have low to moderate positive economic impacts due to issues with coal quality and long-term coal price overestimates.
- Benga has three ongoing appeals of those decisions, one at the Alberta Court of Appeal (awaiting permission to appeal), one at the Alberta Court of Queen's Bench, and one at Federal Court. Those appeals will probably take at least a year to resolve, probably longer.
- All the other mines would need to differentiate their projects from Grassy if they want to get approvals, which will be tough or impossible – the coal quality, the environmental context, the proposed technologies, (and lots of contractors and consultants) are very similar.
- The companies would need to have more complete environmental baseline work, evidence of technology that can protect water quantity and quality, and reliable evidence of better coal quality.

The Proposed Metallurgical Coal Mines

Montem's Tent Mountain

- Tent Mountain is the next furthest along project.
- The Federal Minister of Environment decided Tent Mountain needed federal review in June 2021.
- Montem discussed switching the project from a coal mine to a green energy storage and hydrogen plant – BUT they did not actually make that switch, they are simply considering it. Montem's preference would still be to mine the coal and then build the green energy plant afterwards.
- Montem put in a summary of the proposed coal mine in November 2021. They plan to mine for 14 years, from 2023-2037. A public joint review panel hearing will likely be held in late 2022 or early 2023 if Montem is able to advance through the application process without incident.

The Proposed Metallurgical Coal Mines

The rest: Montem's Chinook, Atrum's Elan South and Isolation South, Ram River Coal's Aries Project, the Cabin Ridge project, and Valory Resources' Blackstone. (and 3 others even less developed)

- These projects are less developed, and they have not put in their applications for mines to the provincial and federal regulators.
- These companies were engaged in 'exploration' work, which consists of road building, drilling, and small patches of mining to test for the quantity and quality of the coal in their leases. The AER is not taking any security for the remediation from this work, which I think is a mistake as it seems to be within their authority to do so.
- The exploration work on former category 2 was paused when the 1976 policy was temporarily reinstated, and when it will be allowed to resume is unclear.

The Big Issues

- (1) How much longer will metallurgical coal be valuable?
- (2) Will Alberta fix the Mine Financial Security Program?
- (3) Will the Federal government implement strong Coal Mine Effluent Regulations?
- (4) Will the Federal government enforce the Species at Risk Act?
- (5) Will Canada Sort out Indigenous Rights to development and non-development?
- (6) What will the New Coal Policy for Alberta include?

(I) Metallurgical Coal: What Value Remains?

- Key question for metallurgical coal: How much longer will metallurgical coal be in use?
- Although the metallurgical coal provides oxygen and carbon for the steel making process, very little of the metallurgical coal becomes part of the steel. Other oxygen and carbon sources can be used, and so coal can potentially be replaced in the steel making process. (Iron ore is the irreplaceable component.)
- The shift away from metallurgical coal is foreseeable— the electric arc furnace process is already in use for steel recycling, and a test plant for converting raw iron ore to steel has been built but predicting the pace of technological development is incredibly tricky.
- The metallurgical coal market is not in a situation of undersupply. The international energy agency estimates on a net-zero GHG by 2050 path, existing sources of production are sufficient to cover demand for metallurgical coal through to 2050.

Metallurgical Coal: Royalties

- The proposed projects have long planned lives (Grassy Mountain: 23 years, Tent Mountain: 14 years, Ram River: 33 years, Elan South, 21 years).
- A risk for any of the mines is that climate change action and new technology will seriously cut into metallurgical coal prices in the 2030's or 2040's.
- Alberta's metallurgical coal royalty rate is 1% of marketable coal until the project achieves payback (i.e. the mine owners have recovered their allowed capital and operation costs) after which the lessee must also pay 13% of annual net revenues.
- That setup means that early mine closures (or low profits, or both) drastically reduce royalties paid to the province. The JRP for Grassy Mountain found the company was overly optimistic in their estimates of revenue, and thereby the royalties and taxes the project would generate.

(2) Alberta's Mine Financial Security Program

- The Mine Financial Security Program (MFSP) is meant to ensure that the province has a deposit to avoid paying to clean up mines after the owners go out of business.
- The MFSP allows for an asset-to-liability calculation option or a full security option.
- The asset-to-liability calculation approach counts the estimated future value of the coal as part of the 'deposit', and generally does not take more security until a mine is 15 years from end of mine life (the MFSP aims for full security 6 years before end of mine life).
- This produces a huge risk for the provincial government if the price of metallurgical coal drops and makes production uneconomic (For Grassy Mountain, the risk was estimated by the company at \$48 million in year 10 of the mine).
- Coalspur's Vista Mine currently has only posted the base security deposit – if that mine were to not reopen, Alberta would have been stuck with a large bill for the remediation and reclamation.

Replace the Mine Financial Security Program

- Problems with the MFSP have been noted by the Auditor General since 2015.
- Fixes to the MFSP are absolutely necessary before any new coal mines are approved, but those fixes are relatively simple in relation to coal mines:
 - Split the MFSP apart to treat coal and oilsands mines differently – the two resources have different policy concerns and should not be handled together. (Though the MFSP program does not work for either of them)
 - End the asset-to-liability calculation option for coal mines, so the mines post security equal to the estimated clean-up costs each year.
- The Alberta government is currently engaging with mine operators and indigenous groups about potential changes to the MFSP.
- Building new coal mines on the current MFSP lets companies gamble with Albertans on the hook.

(3) The Federal Coal Mine Effluent Regulations

- The Federal government has been preparing regulations under the *Fisheries Act* limiting the selenium, nitrate, and acidity in coal mine effluent water since 2016, and has delayed them due to resistance from coal lobbyists and the provincial governments of coal producing provinces (including Alberta) – who acted on the request of the coal lobbyists.
- Selenium gets the most attention, but nitrate, calcite, a variety of heavy metals, acidity, and explosives residue are also present in metallurgical coal mine effluent.
- This mining effluent does not stop when the mining does and continues for decades after mining stops. Stopping work after the effluent limits are breached is useless – the issue needs to be solved in advance.
- The federal government plans to enact these regulations by 2023, and there are two things to watch for: the selenium limits, and how long the ‘phase-in’ process is. The last draft of the regulations would have given special treatment to any mine that started producing within three years of the regulations being enacted (now meaning until the end of 2024).
- In 2017, one mining company told the federal government “The proposed limits for selenium would effectively halt all existing and new metallurgical coal mining in Canada.”

Selenium control technologies are in development

- There is not a proven technology to effectively control Selenium.
- Teck has been trying to control Selenium since at least 2013 with limited success. The technology they are developing is a ‘saturated backfill zone’ or ‘saturated rockfill’ that uses bacteria to capture selenium. It does capture a high percentage of selenium, but not enough to make the mine effluent safe.
- (I note that Teck believes lack of overwintering habitat and winter ice conditions killed the trout – biologists do not seem convinced.)

An aside: How optimistic should we be about future technologies?

- Two important technologies are in development related to metallurgical coal: the saturated backfill zone for selenium treatment and the coal-free electric arc furnace for steel production.
- These technologies need to work effectively, as well as be economically practical.
- When either will be working as required is unknown – and predicting the pace of scientific and technological progress is extremely challenging.
- Other possible technologies could interfere: alternatives to steel as a building material, mixed coal-hydrogen steel manufacturing processes.

(4) Species at Risk: The Three Trout

- Because of the likely severe damage to watersheds surrounding the coal projects, most of these mines (possibly all of them) would require a *Species at Risk Act* permit to harm or kill one or more of Alberta's three species of trout at risk: the Westslope Cutthroat Trout, the Athabasca Rainbow Trout, and the Bull Trout.
- There is an unanswered legal question of whether such a permit can even be granted (my view is 'no', which the federal government also felt was the case in Grassy Mountain) – and litigation on the issue would be likely in the event a permit were granted.

Species at Risk: The Whitebark Pine

- The Federal Department of Environment's Recovery Strategy for the Endangered Whitebark Pine is more than 4 years late.
- The Joint Review Panel for Grassy Mountain recommended that plan be completed.
- A final strategy should be released this year and may interfere with some of the planned mines as they are in key habitat for the Pine.

(5) Indigenous rights to development and non-development

- Canada and Alberta should replace their frameworks for the roles of indigenous government in project regulatory approvals and land-use. The question of precisely how to do that is much larger than the coal issue.
- Indigenous peoples are not unified in their attitude to development. Two first nations governments are supporting Benga's appeals, while others have staunchly opposed coal development.
- As it stands, Indigenous governments and individuals have an uncertain power to have projects blocked or approved – their right to consultation is vague and of uncertain strength.
- The legal and policy questions of indigenous rights issue are complex, and too big to cover today. The federal and provincial governments should negotiate a new framework increasing and clarifying the indigenous role in the project assessment and approval process. This change is not effectively handled by courts.

(6) The 1976 Coal Policy

- The 1976 policy divided Alberta into categories of land where coal development would not be allowed, might be allowed, and would be allowed.
- Land categorization was partially based on where mining was already underway or planned - hence the weird shapes of the categories.
- The Alberta government rescinded the 1976 Coal Policy in June 2020 in order to allow more land to be leased by coal mining companies. The official reason was that the policy has become obsolete.
- Existing laws are numerous, complex and paperwork-heavy, but not effective for environmental protection. A long list of laws shows nothing. “World class regulator” is an advertising slogan, not a reality.

The New Coal Policy for Alberta

- After public outcry, Alberta put together the coal policy committee to prepare two reports:
 - (A) The engagement report, summarizing the perspectives and advice of Albertans about the management of coal resources, and
 - (B) The recommendation report with recommended strategic goals and objectives for the Minister of Energy.
- The Committee passed their reports to government on December 29, 2021.
- The Government is likely preparing their strategy for responding to the reports and a messaging strategy for the public before releasing the reports.
- Alberta should not re-implement the 1976 policy, as it is badly out of date for current conditions. Albertan environmental regulations for coal are undeveloped, as coal received no serious attention between 1980 and 2015.

What does the coal industry want?

- The Coal Industry submission to the coal policy committee asks for more protected lands: but the idea is to carve out the proposed coal mine land as “coal mining allowed” and block coal mining in the rest of the province (where no one is proposing to mine anyways). More than 90% of the province could be protected and industry could get everything they want.
- Realistically, the 9 or so proposed mines are all the areas that have any possible coal mines in the province.
- Industry wants regulations that ‘sound tough’ but have no teeth and allow the use of ‘best economically feasible technology’ – whether it works or not.

What do those opposed to the coal industry want?

- No new coal mines or expansions, thermal or metallurgical.
- “No mines” can sound extreme, but this option is not absurd – the coal projects carry economic risk and a lot of environmental risk. There is no world shortage of metallurgical coal anticipated, and selenium management technologies have not been shown to work.
- “All of them” would be totally absurd – having a half-dozen competing mines would guarantee an economic and environmental catastrophe.

What to watch for in Coal?

From the Courts:

- The results of Benga's appeals: they need to win at least two appeals (a provincial and a federal appeal) and then Benga would probably need to re-engage the regulatory approval process. (expect the permission to appeal decision at the Alberta Court of Appeal by March – the federal appeal will likely be heard in the middle of 2022 and decided around the end of the 2022.)
- The provincial challenges to Bill C-69 (the *Impact Assessment Act*). These challenges are not likely to succeed but would drastically change the federal government's role in coal.

From the Coal Companies:

- Will companies abandon their plans following new policy announcements?
- Will Montem abandon the coal mine plan and switch entirely to the hydro and hydrogen strategy?
- Will Benga and Vista abandon their appeals?

What to watch for in Coal?

From the Alberta Government:

- When will the Alberta government release the committee's reports? (The sooner the better, but I suspect it won't be released until March 2022).
- What will the new coal policy approach include?
 - Will it block any potential mines? (the protection of lands with no potential development is moot).
 - Will it replace the MFSP for coal? (The current MFSP is very industry-friendly, in that it puts the risk on the public instead of the companies)
 - Will it restrict water rights for coal mines?
 - Will the new policy be legally binding and entrenched in law?
 - The worst outcome would be if the policy is just a brochure for the AER, and a statement that the parts of the province with no planned mines are all protected (over 90%!!).
- FOIP – the Alberta government is fighting tooth and nail not to release any records about their handling of the coal issue. Expect more resistance from government about releasing those records.

What to watch for in Coal?

From the Federal Government:

- When the federal government publishes the coal effluent regulations, and whether it includes the long ‘existing-mines’ exception sought by the coal industry. (expect draft regulations in January 2022.)
- Whether the federal government will seek a strategic assessment of metallurgical coal, or make a policy statement about the public interest in such projects under the *Impact Assessment Act*.
- What approach will the federal government take with the *Species at Risk Act*, which has been perennially ignored to avoid interfering with development. (Watch for the Whitebark pine recovery strategy, hopefully later this year).
- *And the exciting party politics question:* Whether the Federal government is willing to fight with the Alberta government about coal development, and whether Alberta’s government is interested in fighting back.

What to watch for in Coal?

- In technology development:
 - Whether selenium mitigation technologies start to show better results or experience more setbacks.
 - Whether governments implement policy setting timelines for the use of electric arc furnaces in commercial use (and how fast the price of carbon rises).
- Internationally:
 - China's steel industry, both in relation to climate policy and foreign relations.
 - China's economy may also reach sufficient maturity in the steel industry to switch largely to recycled steel, ending their need for metallurgical coal.

Questions?