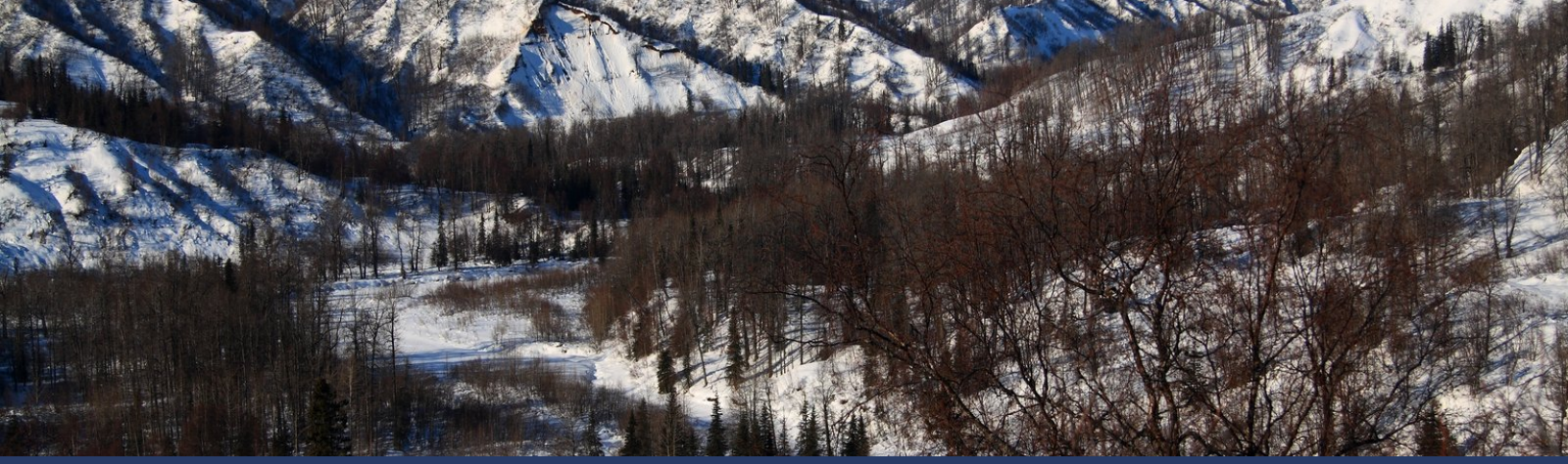


Alaska Coal Proposals Overview

by Bretwood Higman, David Coil

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Ground Truth Trekking

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(This is a summary of all coal-related projects and proposals in Alaska, kept up to date as possible. For references and more detail, check out the individual articles on each proposal or our Alaska Coal page (/Issues/AlaskaCoal.html))

ARCTIC

Alaska's arctic possesses up to 3.5 trillion tons of coal (/Issues/AlaskaCoal/HowMuchCoal.html), spread across over 30,000 square miles. Pressure to develop this resource has intensified in recent years because of the increased global demand for coal, the sheer size of the resource and the prospect of increased arctic shipping with declining sea ice. While

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infrastructure is currently lacking in this region, various road and ports are under discussion that would make it significantly easier to extract this coal.

Nanushuk Coal Prospect (/Issues/AlaskaCoal/Nanushuk-Coal-Prospect.html)

Three exploration companies (Beischer and Associates, Xplore LLC, and St. George Ventures Inc.) initiated a process in 2010 whereby the state would declare around 116,000 acres of coal deposits on state land open to exploration. Any physical activities such as exploration would still be permitted separately). The permitting area is just north of the Brooks Range and just west of the haul road - extending from 5 miles west of Toolik Lake to 3 miles west of the Anaktuvurk River. The site-specific plan was approved, then appealed and is currently awaiting adjudication.

COOK INLET

Most of the projects described below are located in the Susitna-Beluga coalfield on the west side of Cook Inlet which contains over 30 billion tons of coal. Another 40 billion tons is located on the Kenai Peninsula and up to 1.5 trillion tons of coal has been estimated to be found under Cook Inlet.

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MT. SPURR OVER THE CHUITNA RIVER — We first visited the Chuitna Mine proposal (/Issues/AlaskaCoal/ChuitnaCoalMine.html) in the winter of 2008, skiing through on our way to the Aleutian Islands (/Journeys/WildCoast.html). — Get Photo (/photos/mt-spurr-over-the-chuitna-river/)

Chuitna Coal Mine (/Issues/AlaskaCoal/ChuitnaCoalMine.html)

Coal Developer: PacRim
Land Owner: Alaska Mental Health Trust Authority
Coal Buyer: unknown (Potential foreign markets include China, Japan, South Korea)
Annual Coal Produced: 12 million metric tons/year (est. 25 year mine life for the first of 3 mining units within the PacRim coal

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lease area)
Total estimated coal production: 300 million tons total (first mining unit)
Lease Area: First mining unit mine pit area of 5050 acres, total area = +/- 10,000 acres (PacRim lease area of 20,571 acres)
-Additional adjacent leases held by Beluga Coal Company (Primarily Barrick Gold Co) 13,846 Acres with active exploration in recent years.
Climate Change Impacts: 24 million tons of CO2 annually (600 million tons in total)*
Timeline: Unknown
Power Generation Needed: Up to 21 MW from local Chugach Electric Association's Beluga Power Plant, and additional onsite coal fired boiler.

Stone Horn Ridge Underground Coal Gasification (UCG) (a.k.a. "CIRI UCG") (/Issues/AlaskaCoal/StoneHornRidgeUCG.html)

Projected Power Production: 100 MW power production
Timeline: Developers (Cook Inlet Region Inc. (CIRI)) were targeting 2014 as an opening date but there have been no updates about the project since 2011
Location: West side of Cook Inlet
NOTES: This project is being billed as having carbon capture and sequestration (CCS) capability (in the form of enhanced oil recovery), but that technology has never been employed on a

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UCG project before. However, the EPA carbon rules passed in early 2012 may make CCS necessary for the project to be viable.

Linc Energy UCG Leases (/Issues/AlaskaCoal/Linc-Energy-UCG-Leases-AK.html)

Linc Energy purchased 123,000 acres of coal and natural gas leases near Point MacKenzie and Trading Bay in Cook Inlet in 2010. They were exploring for the possibility of a large UCG project that might also incorporate some CTL technology.

In addition, in 2011 Linc Energy leased 180,000 acres from the Alaska Mental Health Trust Authority with the intent to explore for UCG potential. These leases are located in two blocks, one just to the northeast of Tyonek and the Chuitna Proposal, and a second block east of Nikiski. In late 2014, the state approved a plan for Linc to perform exploratory drilling in the area.

CENTRAL ALASKA

Central Alaska is estimated to contain around 17 billion tons of coal, spread across several coalfields. The only existing coal mine in the state is located here, as are all six of the coal-fired plants still in operation. The presence of existing infrastructure, such as the railroad, lowers the threshold for additional projects in this area.

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HEALY CLEAN COAL PLANT — This long idle coal power plant was state of the art when it failed to begin full-time operation in 2000. — Get Photo (/photos/healy-clean-coal-plant/)

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Healy Clean Coal Plant (HCCP) (/Issues/AlaskaCoal/Healy-Clean-Coal-Plant-HCCP.html)

Project Power Production: 50 MW
Coal Use: Consume 300,000 tons of coal per year (from Usibelli Coal Mine Inc.)
Climate Change Emissions: 600,000 tons CO2 per year*
Other pollutants: 700 tons of NOx per year, 150 tons of SO2 per year
Timeline: Owners are seeking to open the facility by 2015
NOTES: In 2009, GVEA and AIDEA expressed their intent to bring back online a 50 MW power plant, Healy Unit 2, that has not operated since 1999. The U.S. EPA alleged that such a project would require a new PSD permit, which GVEA and AIDEA did not obtain. In early 2012, HCCP was awarded air quality permits from the Alaska DEC. In October 2012, GVEA, AIDEA and EPA agreed (http://www2.epa.gov/sites/production/files/documents/healy-cd.pdf) to consent decree to resolve the Clean Air Act requirements for a new PSD permit. Specifically, GVEA and AIDEA have agreed to invest approximately $40 million in pollution control technology to further protect public health and resolve potential violations of the CAA. The settlement also required that GVEA spend $250,000 on environmental mitigation projects and pay a civil penalty of $115,000. The Rural Utility Service prepared a supplemental Environmental Impact Statement (http://www.rurdev.usda.gov/SupportDocuments/RUS%20Healy%20Unit2%20Restart%202013%20SFEIS.pdf) in April 2013, addressing the restart of Healy Coal Plant Unit #2.

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GVEA has an agreement with AIDEA to purchase Healy Unit 2. The sale date is not fixed, but the cooperative anticipates (http://www.gvea.com/energy/healy2) taking possession of the plant before the end of 2013. GVEA intends to restart the facility 18-24 months after purchase of the facility from AIDEA.

Usibelli Coal Mines (Current) (/Issues/AlaskaCoal/UsibelliCoalMine.html)

Usibelli Coal Mine Inc. currently manages several coal mining leases in the Healy area to produce around 2 million tons of coal per year. Around half of this coal is burned in the Fairbanks area, and the remainder is exported to South Korea and Chile via the Seward Coal Terminal (/Issues/AlaskaCoal/SewardCoalPort.html). Most of this coal currently comes from the Two Bull Ridge site, while smaller amounts come from Gold Run Pass mine and coal mined in conjunction with a mine-road project. Usibelli is preparing to expand operations to their Jumbo Dome leases to the NE and in early 2012 received permits to mine up 3 million tons per year at the site. The Poker Flats, Gold Run Pass and Rosalie Mine sites are in various stages of reclamation.

Coal-Fired Power Plants (Current) (/Issues/AlaskaCoal/AlaskaCoalPower.html)

Currently coal from the Usibelli coal mines is burned at six different locations in the state; Fort Wainwright (20 MW), Eielson Air Force Base (25 MW), Clean Air Force Station (22.5

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MW), Aurora Energy LLC (25 MW), University of Alaska Fairbanks (23 MW), and a GVEA “mine mouth” plant in Healy (25 MW).

Linc Energy UCG Leases near Healy (/Issues/AlaskaCoal/Linc-Energy-UCG-Leases-AK.html)

In addition to Linc Energy exploration taking place around Cook Inlet (see above), this company has also received exploratory drilling permits and water use permits for a site near Healy/Anderson.

MATANUSKA-SUSITNA VALLEY

This region possesses over 2 billion tons of coal and has a highly developed infrastructure well suited for exporting coal as well as a history of coal mining in the region. Current roads can be used to transport the coal to the railroad, and plans for multiple railroad and port expansions are in the works.

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Wishbone Hill Mine (/Issues/AlaskaCoal/WishboneHillCoalMine.html)

Coal Developer: Usbelli Coal Mine Inc.
Coal Purchaser: J-Power in Japan
Estimated Annual Production: 500,000 metric tons/year (est. 12 year mine life)
Total Estimated Coal Production: 6 million tons total in initial project, but up to 20 millions tons are present in the area.
Lease Area: Mine area of 297 acres (lease area of 8,000 acres)
Climate Change Impacts: 1 million tons of CO2 annually (12 million tons in total)*
Timeline: Unknown but as of early 2015, Usibelli had all but one of the required permits in hand

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JONESVILLE COAL TAILINGS — We stood atop it as Russel Kirkham from the Alaskan DNR presented information on the possible re-mining of the tailings, and the company's permit renewal. Re-mining the tailings would be one of the only ways to extinguish the fires, which have been going on for many years. — Get Photo (/photos/jonesville-coal-tailings_1/)

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ABANDONED/INACTIVE PROJECTS

Several coal projects around the state have been abandoned in recent years. However, the research and exploration that went into them makes it easier to develop a similar project. In addition, some of them may be revived if coal production in the state undergoes a massive increase.

Canyon Creek Coal Leases (/Issues/AlaskaCoal/canyon-creek-coal-leases.html)

The Alaska Department of Natural Resources has decided to initiate a coal lease sale in Southcentral Alaska, near the town of Skwentna. The leases cover 13,175 acres and are estimated to contain 257.9 million short tons of subbituminous coal. The state has approved the sale of the leases and the sale took place in January 2015. No activity has taken place since the purchase of the leases.

Jonesville Coal Mine (/Issues/AlaskaCoal/JonesvilleCoalMine.html)

Black Range Minerals owns two leases, totaling 1,450 acres near the historic Evan Jones coal mine adjacent to the Wishbone Hill lease area. The estimated resource at the site is around 130

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million tons of coal and the company has expressed interest in re-processing old tailings, as well as exploring for new sites. The company recently obtained a renewal on their mining permit (that was then retracted) from the AK DNR but there is currently no activity at the site.

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Arctic Coal Prospect (/Issues/AlaskaCoal/WesternArcticCoalDeposits.html)



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NANUSHUK COAL — Rolling tundra hills across this region of the state are underlain by layered sediments gently folded along the northern edge of the Brooks Range. The layers stripe riverbanks like this, and create sinuous ridges of gravel running along the hilltops. Vast deposits of coal in these hills are already attracting attention, both in this immediate region (/Issues/AlaskaCoal/Nanushuk-Coal-Prospect.html) and throughout the Arctic (/Issues/AlaskaCoal/WesternArcticCoalDeposits.html). — Get Photo (/photos/nanushuk-coal/)

BHP Billiton was exploring on 1.75 million acres of leases through 2009. Exploration was focused on the western edge of the artic coal deposits, about 40 miles south of Point Lay. Exploration is not currently underway but BHPB has maintained active exploration permits since and is conducting some reclamation of exploration activities. These leases are controlled by the Arctic Slope Regional Corporation (ASRC) who continues to seek another partner for development of this resource.

Bering River Coal Field (/Issues/AlaskaCoal/BeringCoalDeposit.html)

The mineral rights to these coal deposits just east of the Copper River were originally held by the Chugach Alaska Corporation (CAC), then transferred to the Korean Alaska Development Corporation (KADCO). The Eyak Preservation Council and others are working with KADCO to permanently retire coal mining rights in this area. There is an active offer for a conservation sale which makes this unique among coal deposits in the state.

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Chickaloon Coal Leases (/Issues/AlaskaCoal/ChickaloonCoalMine.html)

In 2007 Full Metal Minerals purchased and then relinquished leases of 23,000 acres of Alaska Mental Health Trust land for coal exploration in this area. These leases (and more) are controlled by the Alaska Mental Health Trust Authority who in November 2011 offered up 10,000 acres of leases for sale, with the results published in January 2012. The winning bid was made by an Australian company called Riversdale who purchased virtually all of the leases. Riversdale applied for exploration permits in spring 2012 and limited exploration was ongoing throughout the summer of 2013. By the end of 2014, Riversdale had failed to renew the permits and closed their Anchorage office.

Kenai Blue Sky Coal Power (/Issues/AlaskaCoal/BlueSkyCoalPower.html)

This massive integrated combined gasification cycle (ICGC) plant was to have provided both energy and feedstock to the Agrium fertilizer plant in Cook Inlet. It was abandoned for economic reasons and Agrium has since closed.

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Tyonek Coal-to-Liquids (CTL) (/Issues/AlaskaCoal/TyonekCTL.html)

This project, proposed in late 2010, would produce a variety of liquid fuels as well as 300 MW of electricity using a new technology called integrated coal-biomass-to-liquids (ICBTL) that would theoretically enable the facility to meet federal constraints on CO2 emitted by alternative fuels. Tyonek has a technology partner (Accelergy) for the project but not an investment/development partner.

Beluga CTL (/Issues/AlaskaCoal/BelugaCTL.html)

A feasibility study was undertaken in 2006 for this 80,000 barrels per day project. Because of the proximity to the Susitna-Beluga coalfield, this project is only likely to come up again if Chuitna proceeds. The basic plans for this project are being recycled in the Tyonek CTL project described above.

Fairbanks Coal-to-Liquids (CTL) (/Issues/AlaskaCoal/FairbanksCTL.html)

This 20,000-40,000 barrel per day project would require 500-600 MW of coal-fired power from a separate facility, some of which would be sold back into the grid. The project is currently stalled, primarily due to a lack of private investment.

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Healy CTL (/Issues/AlaskaCoal/HealyCTL.html)

A sister project to Beluga CTL described above, this would use the same technology and be located in Healy, next to the proposed Emma Creek Energy Project. No progress has been made on this project since the release of the feasibility study in 2007.



COAL ALONG EMMA CREEK — Soft sandstone bluffs striped with jet-black coal alongside Emma Creek — Get Photo (/photos/coal-along-emma-creek/)

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Emma Creek Energy Project (/Issues/AlaskaCoal/EmmaCreekCoalPower.html)

This was a proposal for a 200 MW coal-fired plant to be located near Usibelli's Jumbo Dome lease. The plans for this are now almost 20 years out of date, and power companies have never expressed a strong interest.

Matanuska Coal Plant (/Issues/AlaskaCoal/MatanuskaCoalPower.html)

In the face of strong local opposition, the Matanuska Electric Association (MEA) shelved plans in 2007 for a 100 MW coal-fired plant in the area.

Bethel Coal Plant (/Issues/AlaskaCoal/BethelCoalPower.html)

This 100 MW plant would have powered Bethel, some surrounding communities, and the Donlin Creek Gold Mine. It was abandoned in 2005 for economic reasons.

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> *Note on CO2 calculations: The amounts listed here are only for combustion of the coal and do not include emissions associated with mining and transportation. The actual amount of CO2 released per unit of coal burned depends on many factors such as the moisture and ash content of the coal. Here we have used a rough estimate of about twice as much CO2 (by weight) as coal. In general coal from the Arctic will release a little more CO2 than this, and coal from Chuitna and Usibelli a little less.

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