

Prospects for Use of Alaska's Coals

and

Status of the Alaska Coal Industry

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Alaska is known to be a major storehouse of energy and minerals for the future of the United States. In addition to containing the two largest oil fields in the country, Alaska contains as much coal as the combined total of the other states.

History

Although there is only one coal mine now operating in the state, Alaska has a long history of coal mining and coal usage. While Alaska was still part of Russia, Russian ships regularly mined and collected coal in Cook Inlet where coal seams outcropped on the beaches. The Beechey expedition of 1826-27 was the first to report finding coals in the Western Arctic region. In the late 1800s and early 1900s, coal from Corwin Bluffs and Cape Beaufort of the Western Arctic region was used to fuel whaling ships. Coal was first discovered on the Chignik River of the Alaska Peninsula in 1885 and mined there for a local fish cannery and for steamers until 1911. The Matanuska coalfield was mined extensively from 1914 to 1971 at more than seven major surface and underground mines, supplying the Alaska Railroad, electrical generating and heating plants, and military bases. Mining in the Nenana coalfield near Healy began with the construction of the Alaska Railroad in 1915 and has continued uninterrupted to the current time.

Current Mining and Active Projects

There is now one coal company producing in the state, the Usibelli Coal Mine, Inc. (UCM), located on the north side of the Alaska Range in the Nenana coalfield near Healy. UCM is a family-owned and operated mine that has been in operation for 64 years. UCM has two mining areas, the Two Bull Ridge mine and the completed Poker Flats mine which is in final reclamation. UCM produces approximately 1.5 million tons of sub-bituminous coal per year with half of that production going to electrical generating plants in Interior Alaska and half exported to Korea and Chile. UCM is precluded from selling coal to Hawaii and the lower 48 states because of the Jones Act and the fact that no bulk tonnage Jones Act vessels exist that can be used for that shipping.

UCM is proposing development of the Emma Creek coal deposit located in the northern portion of its coal leases at Healy. The concept is to develop a mine-mouth power plant and mine in that area which is adjacent to the twin electrical intertie powerlines that connect Healy with Fairbanks. UCM's interest is to develop the mine and produce the coal which would then be supplied to a separate company that would build and operate the power plant. However, a significant hurdle that must be overcome is the lack of an effective structure for ownership, access to, and use of the existing electrical intertie.

UCM also has coal leases at Wishbone Hill in the Matanuska coalfield northeast of Palmer. The coals of the Matanuska coalfield are bituminous. UCM and previous owners of the Wishbone Hill deposit have worked extensively to develop the area and have completed design of the mine, processing and transportation infrastructure but thus far have not been able to market the coal in sufficient quantities to make it economically feasible.

There is now one coal project in final evaluation and permitting. The Chuitna Coal Project of the PacRim Coal Company is in final stage of a Supplemental Environmental Impact Statement. Chuitna is located about 55 miles west of Anchorage on the north side of Cook Inlet. The project completed an Environmental Impact Statement (EIS) about 15 years ago but by the time the EIS process was complete, coal prices had decreased to where the project was no longer economic. The coal at Chuitna is sub-bituminous with the same characteristics as the coal being mined by UCM at Healy. The area being permitted contains 300 million tons of recoverable coal and the mine is designed to produce up to 12 million tons per year for export.

A large portion of the Western Arctic coalfield is owned by the Arctic Slope Regional Corporation (ASRC), an Alaska Native corporation created under the Alaska Native Claims Settlement Act (ANCSA). ASRC has entered into an agreement with BHP Billiton to evaluate and potentially develop this coal on its private lands. Although there is little infrastructure in the area, possible synergies exist between the ASRC coal, local power needs of the Red Dog zinc mine and the existing Delong Mountains Transportation System (DMTS) which includes the haulroad and port facilities for the Red Dog mine.

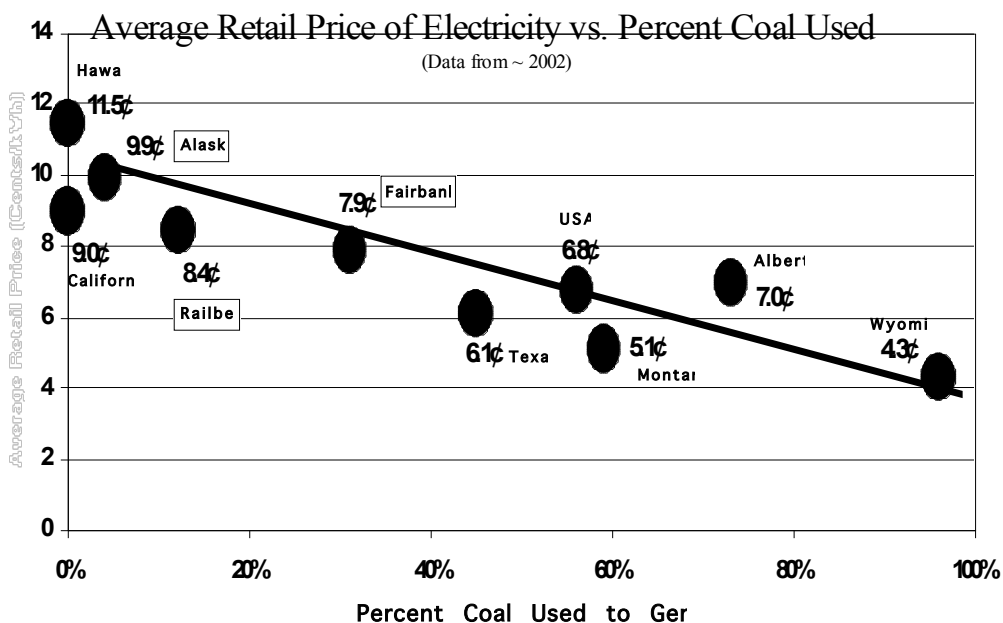
There are various other coal areas of interest throughout the state. Work on these and development plans are advancing slower at this time. In some cases the need is for markets to develop. In other cases the need is for investors to step forward that are willing to begin what is a very long, expensive and uncertain process to develop a coal mine today in the United States.

The Place of Coal in Supplying Energy

Today approximately 55% of the electrical energy used in the United States is generated from coal. Since 1970 the amount of coal used for electrical generation has increased by 188%. At the same time, the total amount of health related pollutants released from all coal-fired electrical generation has decreased by 31%. And because of abundance and economics, coal will continue to provide the largest amount of electrical power for the foreseeable future.

A comparison of electrical rates versus percentage of coal used is very revealing and shows why coal is so important to this country and why it is becoming more important every year. The accompanying graph titled "Average Retail Price of Electricity vs. Percent Coal Used" shows average electrical rates as of 2002. As oil and gas prices continue to increase, the steepness of this curve will increase and areas of the country with the greatest percentage of electricity generated from coal will experience an even greater benefit.

Effect of Coal on Electricity Price



There is tremendous pressure in this country to use alternative energy sources instead of oil, gas and coal. Alternative energy sources including hydro, bio-fuel, solar, and wind can, and need to, be part of the energy mix but they can in no way provide the amount of energy needed. Each of these sources has significant and sometimes fatal drawbacks. These include: the extreme opposition to any new dams for hydro plants and efforts to remove some existing dams; the amount of farm ground that would have to be taken from food production and dedicated to bio-fuel; the amount of the U.S. landscape that would have to be covered by solar panels or wind generators; and both solar and wind can only be supplemental sources because the sun does not shine 24 hrs per day and the wind is even less predictable.

It is inconceivable that this country will turn its back on its most abundant and least expensive energy source which is coal.

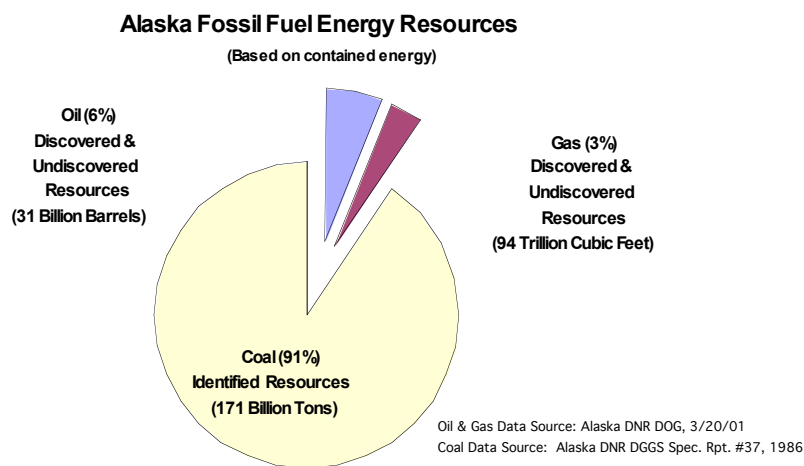
Alaska's Coal Resources

America has been called the "Saudi Arabia" of coal and it is estimated that one half of all that coal is in Alaska. Coals of different types are found throughout much of the state. The Northern Alaska coals extend from the Chukchi Sea and the Western Arctic coalfield, 250 miles to the east to somewhere east of Prudhoe Bay. Other major identified coal provinces include Cook Inlet-Susitna, Nenana, Seward Peninsula, Alaska Peninsula, Gulf of Alaska, Yukon-Koyukuk, Upper Yukon, Copper River, and other smaller fields. Although these are the best known areas, coal

can be found throughout much of the state. One thing that is common for all Alaska coal is that all the coals, sub-bituminous, bituminous and anthracite, have a low sulfur content.

Alaska is effectively unexplored. There has been very little exploration for any minerals in the state. This is true for metals which have a high unit value, and it is especially true for coal which has a low unit value and requires either significant local demand or substantial infrastructure investment for export.

It has been estimated that Alaska's high rank (bituminous and anthracite) coal resources (identified and unidentified) total approximately 3 trillion tons. One estimate of Alaska's coal resources comes from the State Divisions of Oil & Gas and Geologic & Geophysical Surveys as shown in the following figure.



To put this in another perspective, the Chuitna Coal project has 300 million tons of recoverable coal in the lease area proposed for the new mine. The heat value of that coal is 7,650 Btu/lb which equates to 15.3 million Btu/ton. Also, the average heat value of crude oil is 5.5 million Btu/42 gal barrel. That means that each ton of Chuitna coal contains the same heat value as 2.78 barrels of oil and the same energy content as 834 million barrels of oil.

If the Chuitna coal project was an oil field with 834 million barrels, it would be one of the largest in Alaska, after Prudhoe Bay at 13 billion barrels and Kuparuk with 1.5 million barrels.

It is also important to note that the 300 million tons that are in the Chuitna mine plan is possibly two thirds of the amount of coal in the current lease area. And this is only one of the many potential mines in the Cook Inlet coalfield, let alone the entire State of Alaska.

Alaska's coals represent a tremendous opportunity and future to provide high quality, low sulfur energy for Alaska, the United States and the world.