

Fossil Fuels in New Brunswick



Oil, Natural Gas, Oil Shale, Coal

Many people think of fossil fuels as the gasoline that powers our cars and trucks or the furnace oil that heats our homes. Fossil fuels have many uses other than their energy content. For example, petroleum by-products occur in plastics, cosmetics, medicines and paints.

How Were They Formed?

Fossil fuels form as a result of the decomposition of ancient simple algae or bacteria and also from more complex plants such as ferns and trees. The decomposition takes many millions of years and follows the burial of the life forms in sediments of ancient river beds, lakes and oceans. The decomposing life forms change into two main types of organic matter, kerogen and coal.

The types of fossil fuels produced vary with the type of original organic matter, plus the degree of heating resulting from the depth of burial. For example, oil shales are rocks that contain abundant kerogen and have undergone very modest increases in temperature. With increasing temperature kerogen breaks down and expels crude oil and eventually natural gas. Coal, on the other hand, survives as a solid through a considerable range of temperature and burial depth.

In rare cases the crude oil that is expelled from kerogen migrates into open fissures in rocks where it forms into a solid residue called bitumen. This black glassy bitumen found in southeastern New Brunswick at Albert Mines has, been given the local name Albertite.

Natural gas, oil, oil shale and Albertite deposits in New Brunswick are found within sedimentary rocks that were deposited in a lake that formed about 350 million years ago (Mississippian age) in the south-eastern part of the province. The coal beds in New Brunswick are about 310 million years old (Pennsylvanian age) and formed in coal swamps associated with ancient rivers that occupied the region around Minto and Chipman.

Fossil Fuels Today

NB Coal Limited currently produces coal from a strip mine located near Chipman. A dragline is used to remove several metres of rock overlying the coal seam. NB Coal's parent company, NB Power, is sole purchaser of Minto coal and burns the fuel at the Grand Lake Electric Power Generating Station.

The construction of the Maritimes and Northeast Pipeline in 1999 has brought about a major increase in oil and gas exploration in the province. Activity has focused on the Mississippian Albert Formation in the southeastern part of the province. The Albert Formation contains both the oil and gas source shales and reservoir sandstones.

In 2001 and 2002 Columbia Natural Resources Canada Ltd. completed test oil production on four wells in its Taylor Village oil play south of Moncton. Two wells in the western end of the play have been intermittently tested during 2002.

In 2000, natural gas was discovered near Sussex. Evaluation of the discovery, called the McCully Field, was continued in 2001 by Potash Corporation of Saskatchewan and its partner Corridor Resources Inc. In 2002 the partners drilled and completed three wells in the field. Corridor and PCS are constructing a natural gas flowline from the company's McCully No. 1 and No. 2 wells to the potash mill at Penobsquis. This will represent the first commercial discovery and production of natural gas in New Brunswick in over 90 years.

Interesting Facts

- *The first reported shipment of coal from Canada left Grand Lake, New Brunswick for Boston in 1639.*
- *A petroleum hole sunk at Saint-Joseph, New Brunswick in the summer of 1859 was one of the world's first oil wells.*
- *Until its closure in 1991, Stoney Creek near Moncton was the second-oldest producing oil and gas field in Canada.*



Contact information:

Clint St. Peter
Department of Natural
Resources and Energy
P. O. Box 6000,
Fredericton, N. B.
CANADA, E3B 5H1
Tel. (506) 453-2206
clint.st.peter@gnb.ca