

1,899 miles, 51.0¢ per barrel. The rate for crude imported to the Montreal refinery complex through the 236-mile pipeline from Portland, Maine, is 11.0¢ per barrel.

Natural gas pipelines. The authorization of large-volume gas removal from British Columbia and Alberta, beginning in the mid-1950s, led to the development of the first major gas transmission pipelines in Canada. These major lines provided the framework for development of the extensive pipeline network now serving most centres of population from Vancouver to Montreal; gas is pumped through the system for export at seven points along the Canada - United States border. Planning is under way to extend major transmission lines northward into areas not now served to transport gas from the Canadian Arctic islands and the Prudhoe Bay area of Alaska to southern markets. Three groups of companies have put forward proposals for such pipelines and substantial sums are being spent on research to assess the technical problems and environmental effects of pipeline construction in the North. To assist companies in these initial planning phases, the federal government issued a set of guidelines outlining the criteria which must be met to protect the native people and the northern environment during construction and operation of the pipelines.

Pipelines are usually categorized under three headings - gathering lines, transmission lines and distribution lines. Gathering lines take gas from producing wells or treatment plants to the field gate or some other delivery point. Transmission lines normally receive gas from gathering lines and transport it through large-diameter pipelines to distributors for delivery to the ultimate consumer. At the end of 1971, a total of 62,860 miles of pipeline were in operation of which 7,166 miles were gathering, 20,601 miles were transmission and 35,093 miles were distribution.

Unlike oil pipeline companies which are common carriers transporting oil for a fixed charge, gas pipeline companies, with few exceptions, own the gas they transport. The principal and very important exception is The Alberta Gas Trunk Line Company which delivers virtually all of the gas exported from Alberta, where most Canadian gas reserves are located, to the main transmission companies at the provincial boundary. The Alberta Gas Trunk system contains 3,493 miles of pipeline.

Some details of the main transmission systems are contained in the following paragraphs. Two gas trunk lines serve Canada: the TransCanada PipeLines Limited system and the Westcoast Transmission Company Limited.

The TransCanada pipeline, originating at the Alberta border near Burstall, Sask., follows a route eastward to a point near Winnipeg, where it branches into two lines. One continues eastward into Ontario through Thunder Bay, then arches through the clay belt before swinging south via North Bay to Toronto, where one branch goes westward and another follows the shore of Lake Ontario and the St. Lawrence River to Montreal and the United States border. A number of lateral lines extend from the main transmission line to serve communities along the route. The second line from Winnipeg goes south to the United States boundary at Emerson where it connects with the Great Lakes Gas Transmission Company system, jointly owned by TransCanada and an American company. This pipeline follows a route south of Lake Superior through the Straits of Mackinac and east of Lake Michigan to reconnect with the TransCanada system at Sarnia, Ont. The TransCanada system is Canada's longest pipeline, having a total length of 4,007 miles including loop lines. The maximum daily gas delivery through the system in 1971 was 2,803,000 Mcf. Export sales averaged 754,400 Mcf daily.

The Westcoast Transmission Company Limited pipeline originates at the Beaver River field on the Yukon - British Columbia border, extends southeastward through the Fort Nelson and Fort St. John areas and follows a route through the British Columbia interior to Vancouver and the United States border at Sumac, BC. A number of lateral lines gather gas supplies from fields in northeastern British Columbia and western Alberta, and the system was extended north to the Pointed Mountain field in the Northwest Territories in 1972. Total pipeline in the Westcoast system exceeded 2,000 miles in 1971.

Although the Alberta Natural Gas pipeline is only 107 miles long, it forms a vital link in a major gas export chain which carries Canadian gas as far south as California. The pipeline connects with The Alberta Gas Trunk Line Company pipeline at Crowsnest Pass on the Alberta border, crosses southeastern British Columbia to the international border near Kingsgate and connects with the Pacific Gas Transmission Company system, which transports the gas in the United States.