

directly to the petrochemical plants for process heat and power requirements. Montreal and Edmonton are also major petrochemical centres but plants are distributed widely across Canada.

In the past, location and size of Canada's refineries was determined by the tendency to install them close to centres of consumption. Thus, approximately 57% of total capacity is in the populous regions of Southern Ontario and Quebec. Ontario has two main refining centres, in Sarnia and southwest of Toronto; Quebec has the largest refining centre, in Montreal, as well as a refinery in Quebec City. British Columbia has seven refineries, most close to Vancouver.

More recently the size of individual refineries is being increased for economies of scale, particularly in Alberta, Saskatchewan and Manitoba. Many small refineries have been phased out and replaced by two large refineries in Edmonton, close to the main sources of crude. They will confine the area subject to any environmental risk. Saskatchewan will lose one small refinery, but one of the two remaining will be expanded. Environmental control and conservation equipment to meet new standards is being installed.

A third factor influencing refinery location has been proximity to deepwater ports where crude input is received by tanker. The economies obtained with huge tankers have stimulated construction of large refineries in the Atlantic provinces, specifically at Saint John, NB and Point Tupper, NS. These are located in areas of relatively low population density so that a major proportion of their output is either shipped inland or re-exported. Changes in international markets had a major impact on the export refineries in 1976, resulting in a marked decrease in product exports. Production of Canadian refineries is closely in balance with total market demand, although there is some interchange of individual products to and from the United States. Both exports and imports were down from 1975.

Transportation

13.6

Natural gas

13.6.1

The authorization of large-volume gas removal from British Columbia and Alberta, beginning in the mid-1950s, led to construction of the first major gas transmission lines in Canada. Today, the complete system serves major Canadian centres from Vancouver to Montreal and transports gas to the international border for US markets from California to New England.

Most Canadian natural gas must be processed before it can be marketed. Gathering lines take raw gas from producing wells to a collection point on a transmission system or to the inlet of a gas processing plant. Main transmission systems receive marketable gas from field gathering lines or plants and transport it through trunk lines to Canadian distribution companies or to interconnected US transmission pipelines at the international border. Distribution systems serve the ultimate customers in the centres of population.

Gas pipeline constructed in 1976 showed a marked increase over 1975 as 9446 kilometres of pipeline were added to gas transmission, distributing and gathering systems, compared with 6430 km in 1975. By the end of 1976 total cumulative gas pipeline length was 133 376 km.

Gas transmission and distribution lines accounted for the bulk of the increase as construction in these categories reached record proportions. Much of the gathering system construction was in Alberta where a record number of new gas fields were brought into production in 1976. Gas gathering lines increased 3 772 km and distributing pipelines systems were enlarged 3 766 km.

Hearings into the feasibility of building a natural gas pipeline from the mainland Arctic regions, initiated by the National Energy Board (NEB) in October 1975 continued in 1976.

Mr. Justice Thomas Berger was appointed to examine the socio-economic impact of a Mackenzie Valley pipeline, and Kenneth Lysyk to conduct an inquiry into the Alaska