

MW of conventional thermal generation together with some minor changes in gas turbine and internal combustion installations.

Conventional thermal installations provided 75.3% of new capacity added in 1975, compared with 20.3% in 1974, largely as a result of the completion of the fifth 500-MW unit at the coal-fired Nanticoke station in Ontario. Other thermal additions included a 150-MW unit at Battle River in Alberta and the sixth 152-MW unit at the Burrard Station in British Columbia. There were no new nuclear additions in 1975.

Hydro-electric generation additions took place in British Columbia where the first two of four 125-MW units were added at the Kootenay Canal Station. Other additions included a 31.05-MW unit at Première Chute in Quebec and a 30-MW unit at Aishihik in the Yukon Territory.

Load growth in terms of energy in 1975 declined by 0.3%, a situation only approached in recent years by the 1.5% growth recorded in 1961. The slower growth in total electricity used in Canada combined with reduced exports resulted in a reduction of 2.3% in total net generation to 272.62 TWh (1 Terrawatthour = 10^9 kWh). On a national basis, electrical energy consumption totalled 265.23 TWh which is distributed across the country in the ratio of approximately 34% in each of Quebec and Ontario, 12% in BC, 5% to 6% in each of Alberta and Manitoba and 2% to 3% in each of Newfoundland, New Brunswick, Nova Scotia and Saskatchewan, with Prince Edward Island, the Yukon and Northwest Territories each accounting for less than two tenths of 1% of the total. However, growth rates varied considerably across the country from a decrease of 6.0% in Newfoundland to an increase of 17.7% in the Yukon. The "growth" pattern is quite consistently linked to significant reduction in industrial electricity demand in all provinces (excluding the territories) and ranged from decreases of 27.5% in Saskatchewan to 3.3% in Alberta. The average decline for Canada as a whole was 11.4%, reflecting the performance of the economy which exhibited GNP growth of only 2.2%; it also reflected a reduction of 2.3% in the index of real domestic product. In contrast, domestic and commercial electrical energy consumption grew by 8.8% and 6% respectively, largely balancing the reduction in industrial demand. Since utility generation planning decisions are predicated on meeting longer-term average growth expectations the low growth in total electrical energy utilization presents special problems for utility revenues, especially when these are already under pressure from rising costs.

Net export of electrical energy continued the downward trend of the previous year falling to 7.4 TWh or 2.7% of net generation compared with 13.0 TWh and 4.6% in 1974. It is interesting to note that electrical energy generated in Canada (i.e. by Ontario Hydro) from coal imported from the US exceeded 20 TWh or nearly three times the net electrical energy export from Canada to the US.

A joint study is under way by the eastern provinces, including Quebec and the Atlantic provinces, to determine the opportunities for sharing generating capability and reinforcing transmission capacity. The Interprovincial Advisory Committee on Energy has been looking into opportunities for better regional ties and cooperation between provinces at the planning and operational levels.

Generating capacity

13.6.2

Power generating capability is the measurement of the available generating resources of all hydro and thermal facilities at the time of the one-hour firm peak load for each reporting company and is not equal to the installed capacity of such generating facilities. Electric power generated in Canada during 1975 was equivalent to 53.0% of the amount which in theory could be generated if the total installed capacity at the end of the year were operating continuously. The balance reflects fluctuations in load below peak demand during daily and seasonal cycles together with reserves of generating capacity.

Total generating capability has grown at a rapid rate especially in the past few decades. The annual rate of increase was 7.9% in the period 1963-73 and 7.1% in