This trend has been brought about for a number of reasons, mainly of economic expediency. Canada's rapidly expanding economy demands ever-increasing supplies of electric energy to serve a growing population and industrial complex. Supplies of hydraulic energy within economic transmission distance of populated areas are becoming fewer and much more costly to develop. Expenditure of large amounts of capital required to develop single blocks of hydro power at distant points cannot be justified unless there is immediate use for all of the power generated at a load factor which warrants its transmission over long distances. Moreover, the load on the established electrical systems in many areas now needs firming with extra supplies of reliable thermal energy not heretofore required, and this can be provided at lower capital cost per unit of installed capacity than by hydro facilities which may be affected by periodic water shortages.

The trend is well exemplified by reference to the vast complex of The Hydro-Electric Power Commission of Ontario, one of the world's largest single power operations. At the end of 1958 this system had generating resources of 4,956,270 kw. of which only 571,965 kw. were installed in thermal stations. Additional steam capacity under construction amounted to 1,500,000 kw. with forecast of about 3,000,000 kw. to meet requirements by 1970. The Commission's long-term forecast estimates that—if nuclear electricity is not available at competitive cost by 1980—26,500,000 tons of coal annually, at a cost of some $300,000,000, will be required to fuel its steam capacity which by 1980 may amount to as much as 10,000,000 kw. or twice the available generating facilities available from hydraulic sources.

The most recent survey* shows that from 1950 to 1957 the net generating capability of thermal stations had increased by 195 p.c., as compared with 65 p.c. for hydro stations, with a forecast that by the end of 1961 thermal station net generating capability will have advanced over 1950 by 529 p.c. as against 116 p.c. for hydro stations.

Table 4 gives, by province, the estimated amount of increase in net generating capability and the percentage annual increment in thermal and hydro facilities for the period 1950-61. These data clearly indicate the growing importance of thermal generating capacity in comparison with hydro, and that, proportionately, the rate of growth is higher than for hydro in all of the provinces.

* DBS Report, *Fourth Annual Electric Power Survey of Capability and Load—March 1958.*

4.—Estimated Increase in Net Generating Capability, by Province, for the Period 1950-61

Province or Territory	Increase in Thermal Facilities		Increase in Hydro Facilities	
	Amount	Annual Increment[1]	Amount	Annual Increment[1]
	'000 kw.	p.c.	'000 kw.	p.c.
Newfoundland	34	13.0	85	3.6
Prince Edward Island	31	13.7	—	—
Nova Scotia	274	13.0	32	2.3
New Brunswick	191	10.1	94	6.7
Quebec	44	9.4	4,522	6.7
Ontario	1,761	22.9	2,986	7.7
Manitoba	221	7.9	143	2.7
Saskatchewan	550	16.3	2	0.9
Alberta	470	16.4	235	13.0
British Columbia	592	19.6	1,831	11.0
Yukon and Northwest Territories	3	--	20	6.3
Canada	**4,171**	**18.2**	**9,950**	**7.3**

[1] Compounded. A sustained annual percentage increase of 7.5 roughly indicates that the generating capability will double in ten years.