

From hydro-electric developments ranging in size from a few hundred to more than one million horse-power, networks of transmission lines carry power not only to most urban centres in Canada and to industries in isolated locations but also in increasing degree to rural areas in many parts of the Dominion. Low-cost hydro-electric energy is fundamental to the economic mining, milling and refining of base and precious metals, and enables these metals to be fabricated into a multitude of manufactured products. It supplies the enormous power needs of pulp, paper and other wood products industries, and of the lesser but important needs of food processing, textile, and many other industries throughout Canada.

These great hydro-electric undertakings, built to meet the domestic and industrial requirements of the country in peacetime, have been of incalculable value to Canada's participation in two world wars. This is particularly true of the War of 1939-45 in which mechanization played such an enormous part. During the six years of this War more than 2,000,000 h.p. was added to Canada's water-power installation, virtually all of which was utilized for war production and great quantities of power also were diverted from peacetime to wartime use. This huge supply of power enabled Canada to produce materials and munitions of war on a scale entirely disproportionate to her population. Aluminum, so essential for the manufacture of aircraft, took at least one-quarter of all electric energy generated in Canada at the time of its peak production and, together with the output of base metals, alloys, explosives, tanks, guns, 'planes, ships, motor-vehicles, and other munitions, resulted in about one-third of the developed water-power capacity of the Dominion being devoted to war purposes.

With the War at an end, the power industry has entered a period of readjustment. Some of the new generating capacity, added during the war years, will be required to supply the normal growth in demand for power which was curtailed by wartime restrictions and some will be needed to provide normal reserves for emergencies which were not available under war conditions. In certain regions there is a prospect of surplus power capacity due to the cessation of war demands, while in others new hydro-electric developments are being undertaken or are being planned to provide for the growing needs of communities and industries.

Subsection 1.—Water-Power Resources of Canada and Their Utilization

An extensive discussion of Canada's water-power resources with those of other countries and of problems in the development, distribution and merchandising of power is included in the 1940 Canada Year Book, pp. 353-364.

The figures listed in the first and second columns of Table 1 represent 24-hour power and are based upon rapids, falls and power sites of which the actual drop or the head possible of concentration has been measured or at least carefully estimated. Many unrecorded rapids and falls of undetermined power capacity exist on rivers and streams from coast to coast. These will become available for tabulation only as more detailed survey work is completed; this is particularly true in the less-explored northern districts. Also, no consideration has been given to the power