

stations. Practically all of this purchased electricity was produced by water power. Consequently, with the increase in water wheels and turbines in the industries, water power accounted for over 85 p.c. of the increase in all power used during this period. However, some sections of Canada are not so well provided with water power and in such sections primary power derived from steam-engines or turbines, and internal-combustion engines has also increased rapidly during the period covered. In 1939, as will be seen from the table at p. 343, the percentage of all power equipment installed under these headings was 19.6, most of which was steam-engines and turbines. Hydraulic turbines and water wheels reached 13.1 p.c., and electric motors operated by purchased power 67.3 p.c. During the period 1923-39 the net increase in the use of water wheels amounted to 29 p.c., steam-engines increased in capacity in the same period by over 38 p.c.; internal-combustion engines by about 307 p.c.; and the capacity of electric motors by over 228 p.c.

In the Provinces of Prince Edward Island, Nova Scotia, New Brunswick, Saskatchewan and Alberta, primary power produced from fuels is an important factor.

Of the total power equipment installed in the manufacturing industries in 1939 (first part of Table 20), it will be seen that 51 p.c. is used in the manufacture of wood and paper products; the next group in importance is iron and its products, which accounts for 15 p.c.; non-ferrous metal products is third with 11 p.c., so that, together, these three groups account for 77 p.c. of such installation.

The electric power employed in the pulp and paper industry is far greater than that consumed in any other individual industry, constituting 35 p.c. of the total for all manufacturing industries in 1933 and 41 p.c. in 1939, and the growth in electric drive for this industry—from 447,847 h.p. to 1,912,547 h.p.—over the same period has been an important factor in the increase as a whole.

Power Used in Industries.—In 1939 manufacturing and mining industries purchased from central electric stations 9,155,128,000 kwh. for lighting and mechanical power, and 9,405,146,000 kwh. for use in electric boilers, electric furnaces and electro-chemical processes. Also they produced 2,631,499,000 kwh. for these uses making a total consumption of 21,191,773,000 kwh. The bulk of this power was hydro-electric which does not require purchases of coal outside of Canada.

20.—Power Equipment Installed in Manufacturing and Mining Industries, 1929-39, with Details by Provinces and Industrial Groups, 1938 and 1939

NOTE.—Totals for the years 1923-28 are given at p. 297 of the 1941 Year Book.

Year	Steam-Engines and Turbines	Internal-Combustion Engines	Hydraulic Turbines and Water Wheels	Total	Electric Motors Operated by Purchased Power	Total Power Equipment	Electric Motors Operated by Power Generated by Establishments Reporting	Total Electric Motors
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
MANUFACTURING INDUSTRIES								
Totals, 1929.....	762,697	60,841	645,270	1,468,808	2,386,840	3,855,648	495,921	2,882,761
Totals, 1930.....	793,949	65,586	668,208	1,527,743	2,511,264	4,039,007	478,428	2,989,692
Totals, 1931.....	780,487	73,376	667,546	1,521,409	2,578,523	4,099,932	539,430	3,117,953
Totals, 1932.....	735,980	68,551	653,204	1,457,735	2,684,923	4,142,658	510,837	3,195,760
Totals, 1933.....	738,297	76,583	657,683	1,472,563	2,662,445	4,135,008	497,392	3,159,837
Totals, 1934.....	774,494	87,120	597,675	1,459,289	2,770,333	4,229,672	544,714	3,315,097
Totals, 1935.....	774,166	88,265	603,717	1,466,148	2,865,340	4,331,488	512,177	3,377,517
Totals, 1936.....	743,184	92,480	648,439	1,484,153	2,977,714	4,461,667	528,501	3,506,215
Totals, 1937.....	834,703	98,233	649,557	1,582,493	3,129,790	4,712,283	602,955	3,732,745