

Central electric stations that have no water power, but are operated by steam and internal combustion engines, are on the whole small stations. Of the 57 main-plant steam reciprocating engines in central electric stations in 1933, only 8 in number, or about 14 p.c., were over 500 h.p. The steam turbines averaged approximately 4,100 h.p. with 15 units averaging 9,600 h.p., but there were only 66 steam turbines in the industry and these were confined to 25 stations, whereas the 814 water wheels and turbines averaged 7,747 h.p., including 3 at 65,000 h.p. and 2 at 66,000 h.p. each.

The majority of the fuel-using stations are primarily for lighting purposes, using the cheapest fuel procurable, generally local coal. In the Prairie Provinces bituminous and lignite coals are used for the steam engines, and gasolene, oil distillates and producer gas for the internal combustion engines.

Of the 334 main-plant internal combustion engines in central electric stations in 1933, 186, or 56 p.c., were in Saskatchewan, 66, or 20 p.c., in Alberta and 30, or 9 p.c., in Manitoba.

During 1933, the fuel stations produced 330,933,000 kilowatt hours at a cost for fuel of \$1,783,301, an average of 0.54 cts. per kilowatt hour. This production was, however, only 1.8 p.c. of the total output. The auxiliary equipment in central stations consumed fuel valued at \$88,127 and produced 1,677,000 k.w. hours of energy.

#### 5.—Main Plant Equipment of Central Electric Stations, by Provinces and Total Auxiliary Equipment, 1933.

NOTE.—K.V.A. means Kilo-volt-amperes.

Type of Equipment and Province.	Number of Power Plants.	Water Wheels and Turbines.			Steam Engines, Steam Turbines and Internal Combustion Engines.			Dynamos.		
		No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.
			h.p.	h.p.		h.p.	h.p.		K.V.A.	K.V.A.
<b>MAIN PLANT EQUIPMENT.</b>										
P. E. Island.....	11	9	464	52	8	5,063	633	16	4,929	308
Nova Scotia.....	47	55	81,616	1,484	28	62,342	2,227	83	119,787	1,443
New Brunswick..	15	16	105,485	6,593	16	25,360	1,585	32	110,776	3,561
Quebec.....	96	264	3,048,405	11,547	7	15,030	2,147	275	2,628,966	9,560
Ontario.....	131	337	2,003,426	5,945	13	1,098	84	343	1,616,378	4,713
Manitoba.....	27	40	436,925	10,923	39	3,370	86	77	354,746	4,608
Saskatchewan....	120	—	—	—	214	135,398	633	210	114,947	547
Alberta.....	64	18	69,520	3,862	98	59,549	608	109	104,942	963
British Columbia } Yukon.....	64	75	560,156	7,469	34	2,799	82	111	436,214	3,930
<b>Totals.....</b>	<b>575</b>	<b>814</b>	<b>6,305,997</b>	<b>7,747</b>	<b>457</b>	<b>310,609</b>	<b>678</b>	<b>1,256</b>	<b>5,491,685</b>	<b>4,372</b>
<b>AUXILIARY PLANT EQUIPMENT.</b>										
<b>Totals.....</b>	<b>575</b>	<b>814</b>	<b>6,305,997</b>	<b>7,747</b>	<b>598</b>	<b>503,578</b>	<b>842</b>	<b>1,388</b>	<b>5,656,417</b>	<b>4,075</b>

**Provincial Distribution of Electrical Energy.**—The distribution by provinces of the electrical energy generated in central electric stations throughout Canada is shown in Table 6 for the calendar years 1928-1933. In the latter year about 80 p.c. of the total generated electrical energy was produced in the leading industrial provinces of Ontario and Quebec. From Table 7 it is seen that the total electric energy generated for export in the fiscal year ended Mar. 31, 1934, was 1,199,027,447 kilowatt hours; in the calendar year 1933 it had amounted to 1,010,420,181 kilowatt hours, or 5.8 p.c. of the total amount generated in central electric stations.