

Newfoundland.—The Province of Newfoundland, including Labrador, has an estimated potential of over 5,000,000 h.p. of which in 1949 about 5 p.c. had been developed. The available hydro power on the Island alone is placed at well over 1,000,000 h.p.

Abundant even precipitation coupled with a high, wide interior plateau combine to give the Island of Newfoundland the natural requirements for the development of hydro-electric power. Storage capacity is secured from lakes and controlled rivers which hold back from 20 p.c. to 40 p.c. of the yearly flow. The average rainfall is some 44 inches and varies from 58 inches in the more populated Avalon Peninsula to 34 inches in the Northern Peninsula. Approximately 700 rivers flow into the sea but the principal developments are on the Humber (147,000 h.p.), Exploits (80,000 h.p.) and Tor Cove (9,900 h.p.) Rivers. Considerable potential is also available on the Salmon or Bay D'Est, Terra Nova, Grey, White Bear and North Bay Rivers.

Installed turbine capacity at the end of 1948 was nearly 260,000 h.p., 219,400 h.p. of which was utilized by the two leading pulp and paper companies. The balance was distributed among four privately owned companies, the largest being the Newfoundland Light and Power Company with 22,400 h.p. from four plants and the United Towns Electric Company with 16,710 h.p. from eight plants. There are no publicly owned systems.

Frequency used is 60 cycles except in areas served by the pulp and paper companies where 50 cycles prevails with original machinery from England.

A considerable number of home-lighting plants and small generators are in use in most of the scattered outports despite the proximity of water power.

Section 3.—Total Development of Electric Power from All Available Sources

In Section 1 of this Chapter total water-power resources are given with the proportion that has been so far developed. Table 4 of that Section analyses the hydraulic turbine installation by the proportions in central electric stations, in pulp and paper mills, and in other industries. This is useful material, but it does not take into account electric power developed in central electric stations or in other industries from sources other than hydraulic.

Section 2 covers the central electric station industry including those under the public ownership of provincial and municipal governments, and those under private ownership. Neither of these Sections, however, gives a complete presentation of the total electric power developed in Canada. All the hydraulic energy developed is not converted to electric power: there are a number of water wheels and water turbines used for direct drive that are not geared to electric generators. On the other hand, certain central electric stations in the Maritime Provinces and in the Prairie Provinces generate electricity from steam or internal combustion engines. It is the purpose of this Section to show the total electric power generated from all available sources. Most of the power comes, of course, from central electric stations, the figures having been given in Table 5 of Section 2, p. 563. The total kilowatt hours of electric power generated by central electric stations is divided into that generated from water power and that generated from thermal engines of all kinds.