

CHAPTER XV.—POWER GENERATION AND UTILIZATION*

CONSPECTUS

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Section 1.—Water Power

Canada, a country of many lakes and rivers, has been abundantly endowed by nature with great water-power resources which are well distributed from the Atlantic to Pacific Coasts. In most sections of the Dominion, adequate precipitation and favourable topography result in numerous rivers on which falls and rapids frequently occur and offer excellent opportunities for the development of hydraulic power; with the exception of the Prairies of the middle west, water power resources of importance are found in virtually every part of the country. In British Columbia, where precipitation is high, the rivers flowing down the Pacific slope of the Rocky Mountains offer many fine power sites. Alberta, although a Prairie Province, also has mountain streams from the Rockies as well as great reserves of undeveloped power on its large northern rivers. The great Canadian Shield of Precambrian rock, which forms an arc around Hudson Bay, covers part of the Northwest Territories and northern Saskatchewan as well as a large part of Manitoba, Ontario and Quebec; it is a rough, forest-covered, well-watered area characterized by innumerable lakes and fast-flowing rivers with many falls and rapids. The potential power of the Great Lakes-St. Lawrence River System forms part of the great resources of Ontario and Quebec upon which their status as the principal manufacturing provinces of Canada is built and which compensates in large part for the lack of indigenous coal. In the Maritimes, the precipitation is moderately heavy and the rivers, while not large, afford numerous possibilities for power developments of moderate size.

The development from year to year of the great water-power resources of the Dominion is a good index of the country's industrial growth and of the change in its economic life since the beginning of the present century. In 1900, prior to the inception of long-distance transmission of electricity, Canada's economy was based largely on agriculture and the total of hydraulic installations, mostly small mills, was only 173,000 h.p. With the successful solution of the problems of transmission of electrical energy for use in distant communities, the development of

* In this Chapter of the Year Book all information respecting power generation and utilization in Canada is co-ordinated; some sections, however, cannot be regarded as complete owing to the insufficiency of available data. Section 1 has been revised under the direction of W. B. Timm, C.B.E., Director, Mines, Forests and Scientific Services, Department of Mines and Resources, by V. Meek, Controller, Dominion Water and Power Bureau, and Sections 2, 3 and 4 (except as otherwise stated) by G. S. Wrong, Director, Transportation and Public Utilities Division, Dominion Bureau of Statistics.