

Hydro-electric power development. Electrical energy has been called the master tool of mankind. In Canada, it is the economy's mainspring -- the efficient servant of modern life. To a remarkable degree, it is true to say that the Canadian economy is a hydro-electric economy. Canadian industrial development, since the turn of the century, has depended upon water power as its principal source of energy and, despite the current emphasis on thermally-generated power, water power is still by far the leader.

Of the 158,000 million kilowatt-hours of electrical energy generated in Canada in 1966, 130,000 million kilowatt-hours, or about 82 per cent, was generated in hydro-electric plants. Industry used over half of the total energy, commercial operations and street lighting about 15 per cent, and residential and farm almost a quarter of the total.

Every year, new generating capacity is added to help satisfy modern Canada's rapidly increasing demands. In recent years, there has been a marked trend to the installation of thermal plants, because, in many parts of Canada, most of the hydro-electric sites within economic transmission distance of the population and industrial centres have been developed. Planners, therefore, have had to turn to other sources of electric energy. Canada still has a vast undeveloped hydro-power potential which, if developed, would more than treble the 22.7 million kilowatts of hydro capacity installed at the beginning of 1967. Moreover, recent advances in extra-high-voltage transmission techniques are providing a renewed impetus to the development of hydro-power sites previously considered too remote. Already, work has begun on the development of the power potential of the Nelson River in Manitoba, the Churchill River in Labrador, and the Peace and Columbia Rivers in British Columbia.

Transportation. Water provides the most economic means of transportation for the bulky raw materials of Canada's vital export trade -- wheat, pulp and paper, lumber and minerals -- on their way to the world's markets. The idea that inland transport by water was becoming obsolete has been contradicted by the continuing growth in the volume of water-borne goods not only in Canada but in the United States and Europe.

Annual freight traffic through Canadian canals and canalized rivers in the ten-year period from 1956 to 1965 increased from 40 million tons to 99 million tons, an increase of 150 per cent.

The \$470 million St. Lawrence Seaway, completed in 1959 (Canada's share of the cost was \$330 million), is an indication of faith in the future of water-borne transportation. In 1965, nearly 25 million tons of cargo moved up the Seaway, and over 35 million tons moved down.

On the Mackenzie River, the freight carried by the Northern Transportation Company (the major carrier on that river) in 1954 was 91,000 tons. In 1964 this had risen to 128,000 tons, an increase of 40 per cent.

Much of Canada's wealth depends on the forest industry and, for both the raw material and the finished products, rivers and coastal waterways have long been an important means of transportation and a key factor in the industry's economy.

For large, bulky cargoes, transport by water is unlikely to be displaced as the most economical method and, far from becoming obsolete, water-borne transportation will likely continue its steady increase.