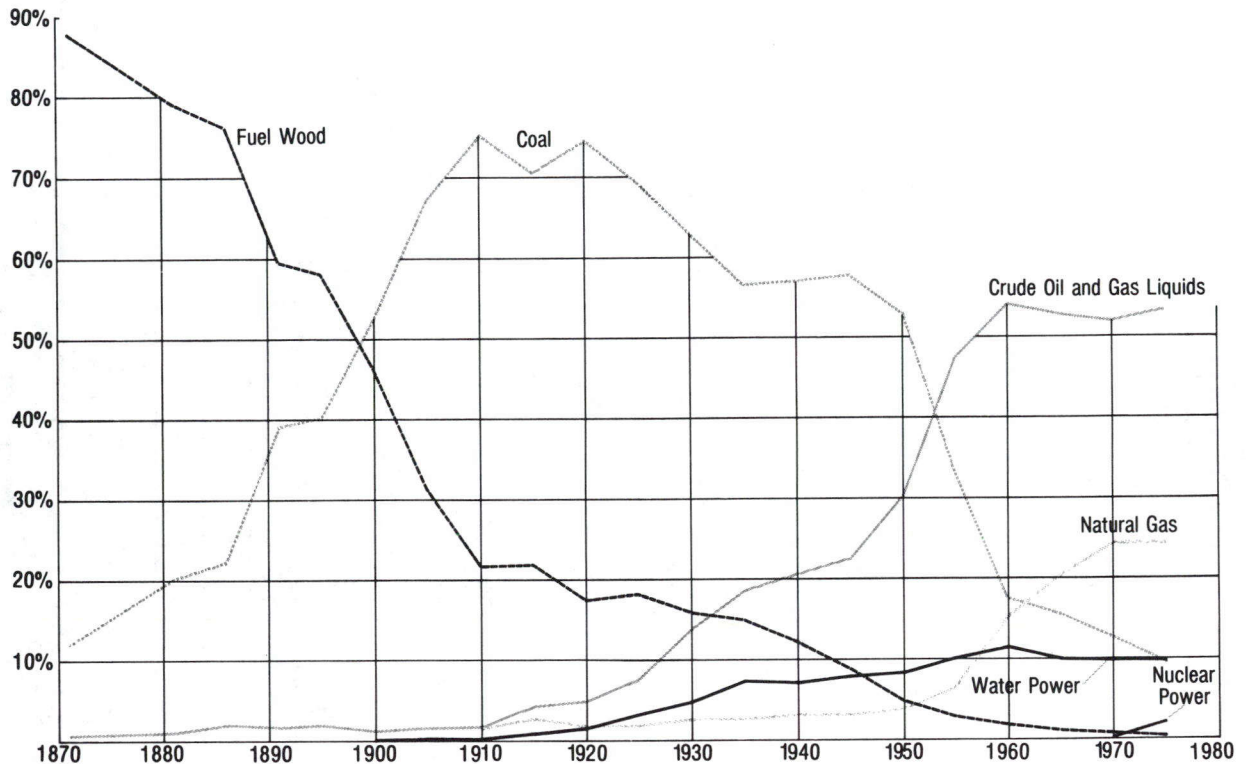


Figure 3-15: THE PRIMARY ENERGY MIX IN CANADA SINCE 1871



Source: After Steward, 1978.

separate provincial interconnections in excess of 100 kV, with two more proposed or under construction. Canada's main transmission lines are illustrated in Figure 3-16.

In addition to the interprovincial links, there are more than 100 transmission lines between Canada and the United States, which provide over 8,000 megawatts in power transfer capability. About one-half of the international transfer lines connect Ontario to utilities in New York and Michigan. The remainder of the lines link New Brunswick with Maine, Quebec with New York and Vermont, Manitoba with North Dakota and Minnesota, and British Columbia with Washington. Several new high voltage lines (from Ontario to New York and from Manitoba to the North-Central States) are in the planning, licensing or construction stages. These new lines will add a further 3,240 megawatts of transfer capability.

At the present time, the largest addition being made to Canada's electrical network is the extensive system for transmitting power from the James Bay Project to southern markets. This system involves five parallel 735 kilovolt AC lines, the first of which was completed in September 1979. The remaining lines are

due to be finished by October 1984. A single 500 kV AC line between the Fraser Valley in B.C. and Calgary is the other major transmission line under construction today.

Canada has an oil pipeline system for moving domestically-produced oil to refining centres from British Columbia to Quebec, and for bringing imported oil into Montreal via the United States. Neither Vancouver Island nor any of the country east of Montreal is connected to this distribution network. Figure 3-17 shows existing and proposed pipelines.

The Trans Mountain Pipeline consists of 1,156 km of pipeline between Edmonton and Vancouver, with connections to the Westridge Marine Terminal (in Vancouver) and to the American border where it joins pipelines serving four refineries in Washington State. This pipeline system has a pumping capacity of 410 thousand barrels per day (65,180 m<sup>3</sup>/d) and a storage capacity of 4.35 million barrels (692,000 m<sup>3</sup>).

The major cross-Canada pipeline delivering western oil to eastern refineries and consumers is the Interprovincial Pipe Line. This system runs 3,700 km across the Canadian prairies, through the United States south of Lakes Huron and Michigan to Sarnia, Toronto and Mon-