

11.8 Uranium

Production of uranium has increased steadily each year, with the exception of 1985, from 8 075 tonnes of uranium (tU) in 1982 to 11 720 tU in 1986. Shipments of primary uranium in 1986 were estimated at 10 977 tU and valued at \$924 million, as compared with 7 035 tU (\$723 million) in 1983.

Canada has five primary uranium producers — Denison Mines Ltd., Rio Algom Ltd., Eldorado Resources Ltd., Cluff Mining and Key Lake Mining Co. These companies operate four mining sites in Ontario and another four sites in Saskatchewan.

Levels of Canadian uranium exploration activity have declined sharply since 1982 in response to the continued erosion of both the spot-market price and short-term sales prospects for uranium. This decline is due to various factors, such as growing world inventories, higher production costs and a general economic slowdown producing an unsettled market and causing delays in planned nuclear programs. It should be further expected that the Chernobyl disaster will cause downward adjustments to nuclear and uranium requirements, at least in the short run.

According to the Nuclear Energy Agency of the Organization for Economic Co-operation and Development and the International Atomic Energy Agency, Canada overtook the United States as the world's leading supplier of low-cost reasonably assured uranium in 1984. Canada accounted for approximately 30% of the world's production of uranium in 1985.

Canada felt the pressure of US industry protectionism in 1986, through two principal US efforts: a decision by the US District Court in Denver, which if upheld would oblige US utilities to ship their foreign-sourced uranium to Europe for enrichment, thereby denying Canada this processing opportunity; and a US demand that Canada discontinue its policy of requiring uranium to be converted to uranium hexafluoride prior to export.

11.9 Electric power

11.9.1 Developments

Total installed generating capacity increased from 85 549 MW at the end of 1982 to 95 810 MW by the end of 1985. Of the additions, thermal capacity contributed the least at 1 528 MW, nuclear capacity contributed 3 267 MW, while hydro-electric additions were 5 703 MW.

Total electricity production has continued to grow, reaching 457 million MW h (megawatt hours) in 1986. Hydro generation in 1986 continued to represent about 67% of total output, with thermal accounting for 18% and nuclear for 15%. Tidal and power generation are included with hydro generation.

11.9.2 Consumption

The growth of the amount of electricity used in Canada varies considerably from province to province. In 1986, New Brunswick had the strongest growth at 12.9%, Prince Edward Island, Quebec and Nova Scotia were next with growth of 9.2%, 5.5% and 4.3%, respectively. In 1986, for the second consecutive year, Saskatchewan reported a decline in electrical use. The industrial sector provided the largest proportional increase of any sector in 1985, the latest year for which data is available. More homes converting to electricity for space heating, and more businesses converting to electricity for industrial processes, were among the major causes of the increased demand.

11.9.3 Provincial highlights

Nova Scotia. In 1980, construction started on a tidal power project on the Bay of Fundy near Annapolis Royal. The project has a generating capacity of 20 MW and was completed during 1984. This is the first tidal power project in North America to begin production. Further studies have been undertaken on other areas of the region to assess the potential for further tidal power projects.

Quebec. During 1985 another section of the James Bay hydro project began producing electricity.

Ontario. In July 1986, the Ontario government recommended that construction on the four-unit Darlington plant be allowed to proceed. In 1985 two new nuclear units started operations in the province, Pickering 8 and Bruce 7. The former is the last of eight reactors built on the Pickering site at Lake Ontario east of Toronto. Bruce 7 is the seventh of eight reactors of the Bruce Nuclear Power Development at Lake Huron.

Manitoba. Construction on the limestone generating station on the Nelson River is continuing. By September 1986, however, construction work was slightly behind schedule due to unforeseen rock conditions.

Saskatchewan. During 1986, Saskatchewan Power announced plans to build the Shand electrical generating station. Shand will be a coal-fired station, consisting of a single 300 MW unit, and is estimated to cost about \$500 million.