

CHAPTER 8: *Energy Infrastructure — Reliable and Low-cost*



APLENTIFUL AND RELIABLE supply of affordable energy is an important consideration for any new capital investment or business venture. And for energy-intensive activities such as smelting or pulp and paper, the cost and availability of energy is absolutely critical to the investment decision.

Canada is abundantly supplied with most forms of energy. Plentiful and low-cost energy is guaranteed by a sophisticated extractive, processing and delivery capability that ensures reliable supplies to all regions of the country. In addition, Canada's achievements in exploration, production, transportation and R&D allow it to exceed domestic demand for energy. The country is a net exporter of all major types of energy. In fact, its overall energy exports are about three times greater than its energy imports.

In almost all instances, average Canadian energy prices are lower than those of other advanced industrial countries. In many cases, the difference is so large that it is clear Canada enjoys some of the most competitive energy prices in the world.

In terms of energy, international investors interested in Canada can count on choice, availability, reliability, attractive prices and, increasingly, a minimal impact on the environment. In all of these respects, Canada's energy sector is one of the most competitive in the world.

Electricity

Availability: Canada is one of the world's largest net exporters of electricity. At the end of 1993, Canada's installed generating capacity was 112,000 megawatts (MW), the seventh largest in the world. About 62 percent of this electricity is hydro-generated, 17 percent comes from nuclear plants, and 19 percent is produced by conventional thermal means, that is, coal, oil or gas. Table 2.5 shows installed generating capacity by province and territory.

In order to ensure uninterrupted electrical supplies to all customers, Canada has a 25 percent reserve margin, varying from 12 percent in British Columbia to 61 percent in Newfoundland. As an added guarantee of supply, if the generating capabilities in any region cannot meet local demand, interconnections with neighbouring utilities can assure consumers of uninterrupted energy supplies.

Reliability: Despite the remoteness of many transmission lines as well as inclement weather, the reliability of the electric power system, on a national scale, measures up to international standards. Most importantly, though, in more heavily populated regions it compares more than favourably when measured by average interruption time per customer per year.

For a utility that serves a large municipality, such as Edmonton Power, the average interruption time per customer per year is very low: 17 minutes in 1993. Ontario Hydro, which services rural and urban users throughout the entire province of Ontario, has an exceptionally high measure of reliability for such a large service area, averaging only about 25 minutes of interruption time per customer in 1993.