Canada's Energy Use in a Global Context

Canadians have been called the world's worst energy gluttons. While this is not true in a strict sense, there being several countries which consume energy even more voraciously than we do on a per capita basis, Canada is so close to the top that this distinction is not particularly comforting. Figure 3-1 presents the per capita consumption of commercial energy in selected countries, based upon United Nations data.

If Canada's energy use is measured in terms of energy consumption per dollar of economic output (Gross Domestic Product), as is illustrated in Figure 5-5 in the chapter Energy and the Economy, the international comparison is equally distressing. Most other industrialized nations typically require only 60 to 80% as much energy to generate each dollar of Gross Domestic Product. How did Canada come to be in such an unfavourable position and what are the implications of this situation?

There are numerous factors which contribute to high energy/GDP ratios. For instance, the more energy-intensive industries there are forming a country's economic base, the higher the ratio of energy to GDP will be. In Canada we have many industries which fall into this category, including aluminum smelting, iron and steel production, cement manufacturing, petrochemical production and resource extraction, among others. Indeed, the energy extraction industries themselves are substantial energy consumers.

In addition to the industrial makeup of the Canadian economy, our cold climate and the resultant space heating load raises energy consumption still higher. The large distances over which goods must be transported and people must travel in this country dictate that our transportation sector will also be a major consumer of energy.

It could be argued though that many of the factors contributing to greater energy use in Canada also prevail in other countries, geographical extent excluded. This brings us to one of the most important factors governing Canada's energy consumption — the past availability of plentiful, cheap, domestic energy supplies. Canada is one of the richer countries in the world in terms of resources and over the years this comparative advantage has been an underlying factor in our social and industrial development. Consumers, for example, had little incentive to insulate homes thoroughly because buying more fuel oil was less expensive in the short run. In industry the cost of energy was low relative to other costs such as labour and capital and its efficient use was not an overriding factor in making decisions on processing or manufacturing options. It is largely because of this ready availability of inexpensive energy that Canadian energy demand has evolved to the state shown in Figure 3-1.

The dramatic price increases for oil on world markets in 1973-74 drove home the realization that our own reserves of conventional and inexpensive oil were being rapidly depleted. Consequently the magnitude of Canada's energy demand and the heavy dependence of our system upon petroleum became sources of concern. In the future Canada will clearly have to use energy more efficiently in the manufacturing sector if it is to maintain a competitive position in world markets. When choosing energy alternatives to replace oil, therefore, we must be mindful of the cost of the substitutes so as not to worsen our competitive position.