

can aid developing countries, relate both to the distribution of indigenous conventional and non-conventional resources of the country, and to the nature of its demand patterns. These in turn are dependent on the specifics of Canadian geography and climate, the size and structure of the economy, settlement patterns and behavioural characteristics. For example, the diversity of resources and of the opportunities available has encouraged development of energy planning and analysis expertise; the climate has led to development of special cold weather technology and emphasis on durability; the small size of the economy and its proximity to the immense resources of the U.S.A. has led to the specialization of Canadian firms; the concentration of population in Canada's southern regions, and dispersed and remote nature of northern communities has led to special consideration for small and highly reliable systems based on dispersed and therefore locally available resources. With several specific exceptions, the Canadian contribution to meeting developing country needs would focus on the transfer of knowledge and expertise, rather than the provision of hardware. Policy development, planning, resource assessment and technology assessment are key areas of relevant Canadian expertise. (Annex A outlines in more detail the most promising areas for Canadian contributions).

### 3. Application of New and Renewable Technologies in Developing Countries

#### 3.1 Introduction

In developing countries, energy must be placed in the context of a strategy for national development. Many low income countries which are heavily dependent on imported energy could greatly benefit from the development of indigenous energy resources. While a justifiable pre-occupation of many policy makers is oil substitution in the commercial<sup>(1)</sup> energy sector, emphasis must also be given to non-commercial energy serving the rural areas where its availability will help to meet growing rural energy requirements for food production.

#### 3.2 Supply and Demand

Developing countries without petroleum resources account for 49 percent of the world's population but consume only 9 percent of the world's commercial energy. Although the commercial energy consumption of these countries has been increasing rapidly, it was still only about 20 percent of the world average in 1973.

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(1) Commercial energy in this sense is oil, gas, electric power and coal produced in quantity at central plants and distributed over extensive networks and grids.