

the industrialized countries must rely increasingly on natural gas, thermal coal and electricity generated both by conventional hydro and nuclear reactors. In the latter part of this century, and into the next, new and renewable energy technologies such as bio-mass, geo-thermal and tidal power should make a large contribution to meeting our energy needs.

But this transition will not be easy. We know from experience that the lead times for developing and using new resources and technologies are long. We know, also, that the capital investment requirements are massive. In Canada alone, during the present decade, more than \$250 billion in energy investment will probably be needed.

There is growing international recognition that planned and far-sighted co-operation is essential. A number of steps have already been taken in this direction. The International Energy Agency (IEA), which was created in 1974, is an important forum for steadily increasing co-operation among most industrialized countries. In recent years, in the Economic Summit meetings, leaders of industrialized countries increasingly have turned their attention to energy problems and goals. At the Venice Summit last year, for example, the participants agreed to an elaborate program of measures for the long-term restructuring of our energy economies, and a high-level group has established to monitor programs over the coming decades.

But how effective have our actions been to date? I think the data are somewhat encouraging. During the 1960s, primary energy consumption in industrialized countries grew at a rate of more than 5 per cent a year. Since 1976, however, this growth rate has been reduced to less than 2 per cent a year. In addition, energy imports into developed countries in 1978 were scarcely more than in 1973, and oil imports had been reduced in fact, to levels lower than in 1973. There are other encouraging signs that real progress is being made, at least in industrialized countries. We know that during the Sixties energy consumption increased at rates equal to or greater than increases in economic growth. But since 1976, energy consumption has grown at only about half the rate of economic growth. Finally, if the goals set by the Economic Summit partners and members of the IEA are met by 1990, the contribution of oil to the energy requirements of developed countries will have been reduced from the present 52 per cent to about 40 per cent.

**Third World
hardest hit**

But in the context of the North-South relations, countries in the Third World face energy problems even more serious than our own. As one example, in the period between 1950 and 1976, commercial energy use in the developing countries increased by more than seven times. By contrast, they increased only three times in the industrialized countries during that period. It comes as something of a shock to realize that in the past year oil imports of developing countries will have cost them more than \$60 billion in scarce foreign exchange. The hardest hit are those developing countries which in recent years had made considerable progress in developing the non-agricultural sectors of their economies. Only ten countries account for 74 per cent of the net oil imports of all of the developing countries. But the potential damage to these developing economies resulting from rising costs of commercial energy can have an impact beyond solely their foreign-exchange losses. For example, they have great implications for agricultural development — the bedrock for most developing country
