

The demand for electricity, the most versatile form of energy, is increasing faster than that for other forms of energy. This demand is expected to double every ten years for several decades to come. At the present time, the demand for electrical energy, met partly by hydro-electric sources, is largely supplied by fossil fuels. As hydro-electric resources in many countries are becoming fully developed, and fossil fuel resources are diminishing while becoming increasingly expensive, other sources of power generation and more rational use of existing resources will be required if this anticipated rate of demand is to be met. In addition to conservation measures, alternatives such as solar, wind, tidal, geothermal and fusion power are being developed but require much more research and development before their commercial viability can be proven.

A major alternative energy technology now available is nuclear fission. At the end of 1974, according to estimates published by the Stockholm International Peace Research Institute, 170 nuclear power reactors in some 19 countries were capable of producing a total of 73,000 MWe (million watts) of electricity. By 1980, if present projections hold, some 28 countries will have a total nuclear electrical generating capacity of about 185,000 MWe.

Nuclear power generation may not be a viable option for all countries because nuclear power programmes require very large capital investment and a sizeable technical and industrial infrastructure, which many countries lack. Nor is there now available internationally the capital and technological base to support a significantly accelerated worldwide expansion of nuclear power; in addition, many countries at