

present lack the level of energy consumption which would justify the necessary large capital investment. Possible limitations such as those expected on uranium production, and the fact that a significant number of countries have alternative power sources available, may also curtail the rate of nuclear power expansion. Accordingly, it is expected that in the next decade or two at least, nuclear power generation will be confined largely to the industrialized countries, and to the more advanced countries of the developing world.

Nuclear Power

Nuclear power plants are more capital intensive than conventional power plants, but they do possess some unique attractions. They have proven reliable to operate, and the cost of electricity produced is relatively insensitive to changes in fuel prices. The major advantage of nuclear power plants over conventional ones, however, is that, in spite of rising capital and operating costs, they may result in significantly lower total unit energy costs than fossil-fires plants in some countries without alternative indigenous supplies of energy. Uranium fuel has a tremendous energy producing capacity: the fission of one pound of natural uranium fuel, of the kind used in the Pickering CANDU Station, produces as much electricity as 15 tons of coal or 70 barrels of oil.

Further fuel economies are offered, for instance, in that plutonium, a by-product of the irradiation of U-238 in reactors, can now feasibly be mixed with uranium fuel to greatly expand the energy yield of the material, intensive research and development efforts towards commercial application of such "mixed oxide" fuels are now underway in a number of centres. Advances in technology may make

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