

Fully Solved Exercises

EXERCISE 1

For all industrial development we need power and the ultimate restriction on power is the fuel from which it is extracted. Is there enough fuel to satisfy our ever-growing hunger for power? For conventional fuels such as wood, coal, oil, the answer is quite clearly No. The world's known stock of oil is only sufficient to last sixty years at the present rate of consumption and the rate of consumption keeps going up and up. We are burning too much wood already, and the earth's known fuel-wood forests would be consumed soon. Coal is still in fair supply, but in some areas--notably England--it is becoming increasingly difficult to mine it, and therefore uneconomical.

Besides fuel as a source of power, there is the device for harnessing energy from rapidly flowing water. Few sources of water power remain untapped, and the power they yield meets only a fraction of our total need. Moreover, it is not very dependable, because water storing in reservoirs depends on rains which are sometimes freakish.

Conventional fuels release energy by combustion but fission makes use of another kind of fuel, remarkable for its concentration of power. All fissionable material is extracted or manufactured from two elements uranium and thorium, and the world has plentiful stock of them. But even so they will not last for ever. There is pro.

bly enough to last for several centuries. Fission in the techniques known up till now converts only one-tenth of one per cent of its fuel into energy. Complete conversion of fissionable fuels into energy is known at present at laboratory level only. If it can be harnessed into a practical power device, one pound of fissionable fuel would be equivalent to three billion pounds of coal. Now the scientists' quest is to find out some more efficient process for using these fuels outside the laboratory on industrial scale. But after even fissionable material is gone, what then? There is no reason to despair. The sun is continually pouring solar energy on earth: we have only to gather and harness it. Those who think that man will one day be left without any source of power are not far-sighted enough. (362 words)

Solar Energy: a viable option for future

Fuel plays a vital role in industrial development as it is the main source of power production. There are many sources of power, but each one of them has its own disadvantages. For instance, fossil fuels — the major source of power — will soon exhaust. Hydal power is limited, and dependent on rain water.

Similarly, in case of nuclear power, radioactive elements either are not completely converted into energy or will soon exhaust as well.

However, people who are not far-sighted enough and think that in near future there will be no source of energy, they should rethink. As solar energy is also a major source which can be utilized in future. It is also everlasting.

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