

Book Review

Solar Energy, Technology and Applications.

J. Richard Williams, Ann Arbor Science Publishers Inc., Ann Arbor, Michigan, 1974, 120 pages, \$12.70.

The ever increasing cost of fuel and the prospect of dwindling supplies has stimulated interest in the possibility of using some of the enormous amount of energy radiated by the sun. Work on the many problems involved has been going on for a number of years, and the progress made up to 1974 is reviewed in this book. Most of the information is taken from US Government publications and papers to specialised conferences and is therefore available to a wider public for the first time.

The main uses of solar energy are seen to be the heating and air conditioning of buildings, heating water for household use and heating air for various industrial and agricultural purposes. The book gives details of relatively simple devices that have been used for this together with their costs. Whilst it is interesting to note that in some situations the cost of a solar energy installation compares favourably with that of a conventional one, it would have been useful to have had more detailed information about the costing procedures.

The other potential use of solar energy is in generating electricity and a number of methods are described. They include generators using steam from boilers heated by the sunlight reflected from thousands of mirrors, geosynchronous satellites from which power produced by solar cells is beamed to earth and generators which make use of thermal gradients in the ocean. All these schemes have apparently been quite seriously considered and even "costed", but they are very expensive, and there is no doubt that the energy crisis will have to become much worse before they become a reality.

The book deals with the technology of solar energy in an elementary way and no attempt is made to go into the basic engineering problems. It is therefore suitable for a non-technical reader. The 50 figures are very clearly and attractively printed on an orange (sunny ?) background. The chapters of the book are self contained essays on a particular aspect of solar energy and whilst this makes for easy reading, it does lead to a certain amount of repetition of facts. The specialist in solar energy may find little of value except the references (some of which are not readily available) but scientists, engineers and architects who are likely to be involved with heating and energy problems will find much of interest and much that will stimulate their imagination.

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