

Book Review

Biomass Energy: From Harvesting to Storage. Edited by G. L. Ferrero, G. Grassi and H. E. Williams, Elsevier Applied Science, London, 1988. xii + 328 pp. ISBN 1 85166 175 1. Price £34.00.

Frequently the economics of biomass utilization are based on the assumption that the starting material is a waste product, with no commercial cost, which is already on the site of the bioconversion, and on this basis the costings look attractive. However, the cost of collection, transport and storage of biomass can be considerable due to the high volume, low density nature of materials such as straw, grasses, sawdust, timber wastes, prunings, etc. In addition, the inaccessibility for large, economic transport, low density distribution and economic harvesting of marine products in particular affect the overall economics.

Biomass Energy considers all aspects of harvesting, handling, drying, chopping, compacting, storage and transport of carbohydrate biomass with particular reference to the forestry industry, but does not consider its bioconversion. The forestry industry has done much to pioneer the methods of harvesting, thinning and general crop management, and has led to a number of significant developments in machinery from converted tractors for economic harvesting and transport, to biomass-fired boilers for energy requirements. However, the examples quoted are not restricted to cellulose utilization from the forestry industry, but cover crops such as sorghum and aquatic crops and by-products such as straw, woodchips, maize cobs, municipal solid waste and vegetable by-products.

This book is good reading for all who work on biomass utilization programmes because it puts into perspective the costs and problems of biomass collection which are frequently overlooked when evaluating programmes. It is both enjoyable to read as well as very informative.

**Charles A. White
John F. Kennedy**