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Title

Tomorrow's Energy: Hydrogen, Fuel Cells, and the Prospects for a Cleaner Planet

Permalink

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Journal

Electronic Green Journal, 1(16)

Author

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Publication Date

2002

DOI

10.5070/G311610470

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Review: Tomorrow's Energy: Hydrogen, Fuel Cells, and the Prospects for a Cleaner Planet

By Peter Hoffmann

Reviewed by <u>Umar Karim Mirza</u> *Pakistan Institute of Engineering and Applied Sciences, Pakistan*

Peter Hoffmann. *Tomorrow's Energy: Hydrogen, Fuel Cells, and the Prospects for a Cleaner Planet*. Cambridge, MA: MIT Press, 2001. 289 pp. ISBN 0-262-08295-0 (hardcover). US\$ 33.00. Alkaline paper.

"Chronicles the progress of hydrogen energy from a vision to a niche market to its position today on the brink of full commercialization. ... After reading this book, one can see the dream of a hydrogen-based economy becoming a reality," writes Senator Tom Harkin in the foreword to this book.

You don't have to be a scientist or engineer to appreciate this work by Peter Hoffmann. It is a well-written and easy-to-read book with simple explanations that anybody with a basic knowledge of energy concepts can easily comprehend.

The book has twelve chapters in all. It begins with a chapter on why we need hydrogen. The next two chapters deal with the discovery of hydrogen and the use of hydrogen as an energy source. The information is up-to-date to the end of 2001. Two chapters are dedicated to the production of hydrogen through various means. Five full chapters describe various uses of hydrogen ranging from a fuel for automobiles to a utility gas. The author has also discussed the utilization of hydrogen in fuel cells as well as its non-energy uses. The penultimate chapter discusses the safety aspects of hydrogen use, since it is a highly inflammable gas and requires special handling before and during its use. The author lays out, in the last chapter, the possibilities and challenges which hydrogen as an energy source will be facing during the next 100 years. A comprehensive list of reference notes follows the final chapter. The index is relatively short but useful.

The book covers both hydrogen's history and anticipated hurdles in its widespread use. Also it reveals the numerous opportunities hydrogen offers for satisfying modern energy needs. The main strength of this book is the collection of much recent, yet scattered, information. I know of no other book with such a full range of information about hydrogen energy issues. This book should be required reading for planners, politicians, environmentalists, researchers, and educators. It has something to offer for general readers too, since everyone nowadays seems worried about the seemingly inevitable energy crisis looming ahead. However, I don't recommend it as a textbook for

energy engineering students, mainly for two reasons: first, it is not all that
technical and second, it is not written textbook style. Graduate students in
energy policy and planning may find it beneficial in their studies.

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