
Preface and Acknowledgments

This revised and expanded edition of *Tomorrow's Energy* continues to report on global developments and trends—both advances and setbacks—of the evolving hydrogen energy economy in the ten years since the first edition was published in 2001. It traces what has happened in this field roughly since the year 2000 while retaining much of the earlier material, including the discovery and early history of hydrogen and the late-twentieth-century efforts to harness hydrogen as transportation fuel for road vehicles, airplanes, and other uses. Today, more than ever before, the evolution of an energy economy based on nonpolluting, zero-emission hydrogen as fuel is both inevitable and imperative in light of worldwide concerns over energy security and global warming caused by carbon dioxide.

This edition covers the major aspects of production, storage, transportation, use as a utility fuel, and safety. It also touches on some of the recent political controversies in the United States surrounding hydrogen—for example, the views of Secretary of Energy Steven Chu versus those of hydrogen and fuel cell supporters and scientists in the United States and abroad, the findings of think tanks and major consultants, the National Research Council, and practically everybody else, including major carmakers and developers of European and Japanese hydrogen infrastructure plans, for example. It also introduces some concepts not widely known, such as hydricity—the essential interchangeability of electricity and hydrogen—and prospects for both fuel cell-powered small aircraft as well as hydrogen-fueled hypersonic airplanes. Finally, it gives a glimpse of what some thinkers and practitioners guess may happen in coming decades.

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