

Sustainable Energy: Choosing Among Options.
by J.W. Tester, E.M. Drake, M.W. Golay, M.J. Driscoll, and W.A. Peters
Massachusetts Institute of Technology

To be published by MIT Press in early 2005, this textbook addresses one of the foremost challenges facing us all – how to provide humankind with energy-derived advantages without damaging the environment, affecting societal stability, or threatening the well being of future generations. The book discusses current energy resources and technologies, as well as some emerging technologies. Extending beyond technology, *Sustainable Energy* explores ways that energy decisions affect quality of life, commerce, mobility, and social institutions.

Developed as a textbook for senior level and graduate students to introduce them to the issues and opportunities for achieving a sustainable energy future, the main goal was to develop their skills to analyze the multi-dimensional characteristics and understand the tradeoffs and uncertainties associated with pursuing alternative energy options on local and global scales. In addition to students and faculty, energy experts and non-specialists in government, industry, foundations, non-profit organizations, and the public, should find *Sustainable Energy* a valuable resource. Anyone seeking a better understanding of energy in a framework of enduring social and environmental stewardship will find this book of interest.

Sustainable Energy provides a template for carrying out multi-attribute analysis with a general treatment of important, energy-related supply and end-use issues, including:

- Resource availability
- Local, regional, and global environmental issues
- Sustainability metrics
- Technical performance
- Economics
- Energy storage
- Complex systems analysis



Individual chapters also cover, with a quantitative emphasis, the full range of energy technologies, including:

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| • Fossil fuels | • Nuclear power |
| • Wind | • Geothermal |
| • Hydropower | • Biomass |
| • Solar | • Ocean and tidal power |

Other chapters address energy storage, transmission and distribution, the electric sector, and energy use in buildings, transportation, and industry. The treatment is not meant to be overly detailed but the technology chapters do discuss critical resource, technological, environmental, and economic issues and contain illustrative examples, homework problems, detailed references, and links to useful Web pages.

To learn more, please visit our MIT OpenCourseWare Website <http://ocw.mit.edu/OcwWeb/Chemical-Engineering/index.htm>, course 10.391J.