Further readings for Chapter 20 (renewable energy)

*Italics for titles*


Ashley, Steven. 2007. “Diesels Come Clean.” *Scientific American* 269 (3): 80-89. Improved engines and exhaust scrubbers, combined with new fuel, will make energy-efficient diesels nearly as green as hybrids.


Blair, Tony. 2003. “Meeting the Sustainable Development Challenge.” *Environment* 45 (4): 20-28. The British Prime Minister argues that we haven’t been bold enough in addressing poverty and environmental degradation and pledges a 60% reduction in greenhouse gases at a reasonable cost.


Davis, G. R. 1990. "Energy for Planet Earth," *Scientific American* 263 (3): 54-64. An excellent overview of our global energy resources and how we can achieve a sustainable relationship between energy use and the environment.


Friedman, T. L. 2008 Hot, Flat, and Crowded: Why We Need a Green Revolution--and How It Can Renew America. Farrar, Straus and Giroux. Argues that moving to renewable, sustainable energy will not only solve the climate crisis, but also revitalize our economy.

Geller, Howard. 2002. Energy Revolution: Policies for a Sustainable Future. Island Press. Shows how a transformation from a carbon-based world economy to one based on high efficiency and renewables is a necessary step if we are to achieve sustainability.


Goettemoeller, Jeffrey and Adrian Goettemoeller 2007, Sustainable Ethanol: Biofuels, Biorefineries, Cellulosic Biomass, Flex-Fuel Vehicles, and Sustainable Farming for


Haile, S. M., et al. 2001. “Solid acids as fuel cell electrolytes.” Nature 410: 910 - 913. This new type of fuel cell may offer greater efficiency at lower cost than others now being tested.


Hill, J., et al. 2009. “Climate change and health costs of air emissions from biofuels and gasoline.” *PNAS* 106: 6: 2077-2082. A combined life-cycle, climate-change, and health effects analysis calculates that corn ethanol (depending on biorefinery type) can be as much as twice as costly as gasoline, while cellulosic ethanol (depending on the feedstock) could cost only about half as much as gasoline.


Jones, M. 1995, Hybrid vehicles - the best of both worlds? Chemistry and Industry. no. 15,: 589


LaDuke, Winona. 2004. “Lakota Winds” Orion 23 (6): 62-69. Indian reservations on the Great Plains are among the poorest places in America, but they have a wealth of wind energy. Native people are beginning to develop that potential.


claims that corn-ethanol is environmentally worse than gasoline. They argue that previous studies used out-dated data on corn fermentation, but they fail to consider land-use questions.


Pearson, David (Editor). 1996. The Natural House Catalog : Everything You Need to Create an Environmentally Friendly Home. Fireside Press. All the materials, products, and services you need to create and maintain an ideal living space.


Tilman, D., et al. 2006. “Carbon-Negative Biofuels from Low-Input High-Diversity Grassland Biomass.” Science 314. (5805): 1598-1600. Biofuels derived from low-input high-diversity (LIHD) mixtures of native grassland perennials can provide more usable energy, greater greenhouse gas reductions, and less agrichemical pollution per hectare than can corn grain ethanol or soybean biodiesel.


Zhang, Y.-H.P., and L.R. Lynd. 2005. Cellulose utilization by Clostridium thermocellum: Bioenergetics and hydrolysis product assimilation. Proceedings of the National Academy of Sciences 102(May 17):7321-7325. This system may have a higher energy yield than other fermentation processes.