



Reading List for Alternative Energy Activists

Prepared by Emily McGlynn at Bryn Mawr College,
an intern with Energy Vision
September 2007

A. Alternative Energy Sources:

1. The Hype About Hydrogen (2005)- Joseph Romm, Island Press

Romm, founder and director of Center for Energy and Climate Solutions and former US Department of Energy Assistant Deputy Secretary, discusses in depth the barriers to a near-term hydrogen economy and the necessity of finding a source of hydrogen that is renewable (i.e. not natural gas). This book exposes one to arguments against promoting hydrogen as an immediate answer to global warming and is valuable for its candid discussion of what hydrogen can and cannot do as an environmental 'panacea.' Romm points out the obstacles hydrogen must overcome in order to be used in transportation and other applications.

2. Tomorrow's Energy (2002)- Peter Hoffman, MIT Press

Hoffman has been writing about hydrogen and its potential as a widely used energy carrier for several decades, outlining in this book the history of hydrogen's industrial use. He offers arguments for the construction of hydrogen infrastructure throughout the country and is optimistic that hydrogen technology can provide solutions to global warming, dependence on fossil fuels and other environmental problems.

3. The Hydrogen Economy (2003)- Jeremy Rifkin, Tarcher

This book provides more arguments for a fully hydrogen-run economy, and is more reader-friendly than Hoffman's. Rifkin posits that a hydrogen economy may be able to allow for individuals to create their own hydrogen fuel on site via a solar power web, thus dismantling the bureaucracy of oil companies and other energy providers. Many readers have criticized Rifkin for his avoidance of discussing where enough hydrogen will come from in the near-term to power the entire economy.

4. The Fundamentals of Natural Gas (2006)- Vivek Chandra, PennWell Corp.

Information on all stages of natural gas production and commerce are discussed in this book, which proves to be a valuable resource to anyone who has little background in the fossil fuel sector. Comprehensive outlines of the state of natural gas infrastructure in different countries across the world are found here, as well as predictions of how/how much natural gas will be used in coming years.

5. Biomethane from Dairy Waste (2005)- Ken Krich et. al., Western United Dairymen

A sourcebook prepared for dairy farmers of California, this lengthy reference is a good resource for information on biomethane and biogas ranging from the processes of anaerobic digestion to government incentives for renewable gas production.

6. Fueling the Future (2006)- Biogas West

This is a shorter pamphlet on biomethane, specifically its transportation applications. More general topics are covered here, such as the greenhouse gas reduction and economic benefits of harnessing biomethane, environmental benefits, and biomethane's role in the creation of a hydrogen economy.

7. Philadelphia City Council Resolution on Biofuels (2007)- Councilman Jim Kenney

Councilman Kenney drafted this biofuels resolution in the spring of 2007 to encourage the city of Philadelphia to investigate the "feasibility and desirability" of running the city's vehicle fleets on biofuels. Such a resolution would be ideal for the beginnings of a natural gas transportation program.

B. Alternative Fuel Vehicles:

1. Greening Garbage Trucks: Trends in Alternative Fuel Use: 2002-2005 (2006)- James S. Cannon, INFORM

This report, which can be downloaded from Energy Vision's website (www.energy-vision.org), is absolutely necessary reading for the natural gas refuse truck project. Cannon provides the results of his research on the US refuse truck sector, showing the rapid growth in the number of natural gas refuse trucks across the country and giving reasons for its appeal as well as impediments to the use of this technology. The report also contains useful information on the air quality and fuel use impacts of the nation-wide refuse fleet. (also recommended is the original 2002 Greening Garbage Truck report, which contains more in-depth discussion of the refuse industry.)

2. Harnessing Hydrogen: The Key to Sustainable Transportation (1996)- James S. Cannon, INFORM

This book provided a comprehensive look at the most current state of hydrogen technology at the time of its publication in the 1990s. It is a helpful introduction to the possibilities for use of hydrogen in our economy, and no other source has as complete a picture of all the companies, organizations and individuals that were involved in improving hydrogen technology from the 1970s to 1996. Other previously mentioned sources have more up-to-date information but are less thorough.

3. Diesel Danger I&II- Philadelphia Clean Air Council

Downloadable from the Philadelphia Clean Air Council website (<http://www.cleanair.org/Air/diesel.html>), these two short pamphlets use air quality statistics

from Philadelphia to argue against the use of diesel, as well as offering ways to reduce diesel emissions and alternatives to diesel such as biodiesel and natural gas. These are examples of the kind of information that would be valuable to obtain for the Health and Air Quality research component of any natural gas refuse truck program.

4. Shifting Gears I&II, Resource Recycling Magazine (Sept and Oct 2006)- Joanna D. Underwood and James S. Cannon, Resource Recycling, Inc.

Joanna Underwood, founder and president of Energy Vision, wrote these articles (downloadable from Energy Vision's website (www.energy-vision.org.) while president of INFORM along with Energy Futures president Cannon. The two provide an easy-to-read synthesis of the trends in the natural gas refuse truck sector, the pros and cons of using natural gas trucks, and the economics of purchasing them. The articles cover a lot of information over only a few pages, so this reading would be a good place to start for someone beginning to work on a natural gas refuse truck program.

5. On the Road in 2020: A life-cycle analysis of new automobile technologies (2000)- Malcolm A. Weiss et.al., MIT Energy Lab

Weiss et. al. have studied which vehicle technologies are the most promising for the future when considering energy efficiency, greenhouse gas emissions reductions, financial costs and health and safety considerations. Read their report to see how natural gas vehicles come out on top in many of these categories.

C. Energy and the Economy (i.e. Why do we care about energy?):

1. Lives Per Gallon: The True Cost of Our Oil Addiction (2006)- Terry Tamminen, Island Press

Tamminen, former Chief Policy Advisor to Governor Schwarzenegger and former Secretary of California EPA, focuses on the wide array of repercussions that result from our dependence on oil, ranging from health impacts such as asthma, cancer and premature deaths to the environmental damage incurred from oil spills to the loss of life in wars fought to preserve a steady flow of oil into our economy. This book is an extremely quick, interesting and revealing read that gives a complete look at how the extensive use of oil is affecting individuals around the world.

2. Steady-State Economics: Second Edition with New Essays (1991)- Herman Daly, Island Press

First written in the 1970's, Daly was one of the pioneers in the economic discipline to suggest a different way of looking at macroeconomic trends and reevaluating our nation's economic goals. This book offers an alternative to the constant-growth economy that we take for granted as the only option for a western Democratic society: the steady-state economy, in which throughputs are minimized (and thus environmental degradation is minimized) and quality of life is maximized. He offers strategies for achieving such an economy and points out that abandonment

of our obsession with unlimited growth will allow us to achieve sustainability without running out of all our natural resources.

3. A Thousand Barrels a Second: The coming oil break point and the challenges facing an energy dependent world (2007)- Peter Tertzakian, McGraw Hill

Tertzakian provides a historical look at the exhaustion of society's favorite fuels, starting with whale oil in the mid 19th century and ending with today's dependence on oil. He argues, like many other industry experts and analysts, that a steady supply of easy-to-access oil is soon coming to an end, and counters this with a cost-benefit analysis of several options the world's competing super-powers have remaining to them to offset the drop in available petroleum fuel. Tertzakian is not a proponent of hydrogen as an immediate answer to reducing dependence on oil, but does provide an interesting look at the oil industry and the problems attached to it.

D. Environmental Activism (i.e. What to do about it):

1. New York Commercial Waste Hauling Fleet (2006)- Antonia Bryson and Joanna D Underwood, INFORM

This INFORM report was the inspiration for the original student-driven natural gas refuse truck program started at Bryn Mawr College for the Philadelphia refuse truck fleet. The report outlines a profile of the New York City private waste hauling fleets, its contributions to air pollution, and explains key strategies for improving the environmental impact of these trucks, which includes the purchasing of new natural gas refuse trucks and retiring the oldest, most polluting trucks in the fleet. This reading is essential for anyone looking for a template of the Refuse Truck Sector Profiling research component of the natural gas project.

2. The Limits to Growth: The 30-Year Update (2004)- Donella Meadows, et.al., Chelsea Green

A follow-up to the original *Limits to Growth* publication, Meadows and her research team updated their predictions to how humanity will fare in the future should we continue our rabid consumption of natural resources. Their common sense conclusion is that the only way to achieve long-term stability in our quality of life is to reduce consumption of nonrenewable resources, such as fossil fuels, and to place higher value on sustainable social systems. Especially of interest is their final chapter on ways that individuals can act on the conclusions reached in the book (not what is usually recommended for environmental activists).

3. Powerdown: Options and Actions for a Post-Carbon World (2004)- Richard Heinberg, New Society

This book, written by professor of New College of California Heinberg, is distinguished from other "end-of-oil" publications in its unique interpretations of the possible ways that our society might survive after fossil fuels have been exhausted. Heinberg's outlook is bleak for our world's capacity to foresee and act accordingly with the need for alternative forms of energy, and so recommends that individuals begin to learn basic survival skills to cope during a time of

indeterminate energy availability. Some consider this an extreme view, but his analysis of how the world powers may interact if there is no alternative energy options are valuable in its own right.

4. The Nutter Sustainability Plan for Philadelphia (2007)- Michael Nutter

This is Philadelphia mayor candidate Michael Nutter's environmental platform for the 2007 mayoral election. Of most interest, he describes his support for alternative fuels and creating an executive body to oversee the city's movement toward sustainability in transportation.

5. Transportation Boom in Asia: Crisis and Opportunity for the US (2004)- James S. Cannon, INFORM

This is an in-depth report on the competition that is growing among the US, China and India as these previously undeveloped countries increase the number of cars on their roads and are beginning to modernize their economies. Several recommended solutions to the growing tensions among growing world powers are described, prominently showcasing the important role that natural gas can play in developing countries to shift them to renewable fuels before they develop an entrenched dependence on oil. The report and an executive summary which outlines eight solutions are available at www.energy-vision.org.

6. Winning the Oil End Game (2007)- Amory B. Lovins, Rocky Mountain Institute

This report, available at www.oilendgame.com, focuses on market-based approaches to increasing support of alternative fuels before our economy is negatively affected by rising oil prices, holding tax-incentives and other techniques to encourage innovation in the alternative fuel sector as opposed to enacting increasingly difficult environmental standards. Their argument rests on the projection that immediate substantial funding to allay our dependence on oil will result in even greater annual returns by 2025.

For further information, please contact:

Energy Vision
138 East 13th Street
New York, NY 10003
Tel: 212 228-0225
<http://www.energy-vision.org>
Email: joannaunderwood@gmail.com