
Alternative Energies – Miracle or Mirage?

OSHER 766-001

Dates: Thursdays, 10/1/15-11/5/15

Times: 1:30PM-3:00PM

Location: Commander's House, Ft Douglas

Instructor: Alan Eastman

Course Overview

"Alternative Energies - Miracle or Mirage" will be taught this fall by Dr. Alan D. Eastman, a chemist with decades of experience with a major oil company, but who recently co-founded a geothermal energy company. We will meet on Thursdays from 1:30 - 3:00 pm, starting on October 1, and continuing through November 5, i.e. six sessions. This class will give a brief overview of the US' energy situation present and future, including:

- The overall energy picture: where our energy comes from, and where it goes - Week 1
- Conventional energy sources, including coal, oil, gas, nuclear, plus tar sands and shale oil - Weeks 1 and 2
 - Advantages and disadvantages
 - Pollution and pollution prevention
 - Carbon footprint
- Transportation fuels - Week 2
- How much can conservation help? Week 3
- What can we do about wasted heat (over 60% of all the energy from every source!) - Week 3
- A review of each major (and many minor) alternative energy source, including wind, solar, hydropower, geothermal, fusion, tidal power, etc. (Weeks 3 -5) For each type of alternative energy, we'll discuss:
 - How it works
 - Where it can work
 - Its advantages and disadvantages
- Finally, we'll pull everything together in Week 6 and try to make some (hopefully) educated guesses about what the future might bring.

I'll give out a total of 6 handouts summarizing major topics, but you may want to take a few notes as well. For a few interesting looks at the major alternative energies, see these websites:

- <http://www.therenewableplanet.com/renewable-energy/>
- <http://www.nrel.gov/docs/fy01osti/27955.pdf>
- <http://www.camoinassociates.com/documents/Final-AlternativeEnergyWhitePaper-SectionsCombined.pdf>
- <http://what-when-how.com/global-warming/alternative-energy-overview-global-warming/>

And for the primary data on energy usage, including renewables, the US Energy Information Administration is the best source. Their main website is at www.eia.gov; pay special attention to the drop-down menus entitled, 'Sources and Uses,' 'Topics,' and 'Geography.'

Obviously, we'll be going quickly, but I hope to present enough information to give class members the knowledge they need to make reasoned and logical decisions about energy issues in the years to come. Even more, I hope to teach attendees how to find out the latest, unbiased information about energy issues and to be able to reasonably evaluate claims made by groups on all sides of the many issues connected to energy. Because of my own background and experience, this class will be more technical than economic, but fortunately, the basics of these technologies are easily understood by the average non-technical person.

I can be reached at aeastmanslc@gmail.com, or at (801) 278-9560, or at (801) 440-3875. I would really prefer e-mail because it allows me to carefully consider answers to your queries, not to mention that I am still working more or less full time on geothermal energy.