## Syllabus:

# Energy: Powering the Economy in an Era of Climate Change and Political Instability

**Steven Mufson**
**The Washington Post**
**Tel: (202) 334-6414 / cell: (202) 246-8798**

There are few issues more critical, yet less well managed, than energy issues. The health of the U.S. economy depends on reliable and reasonably priced energy, yet our reliance on oil has been anything but a formula for reliability or stability. Moreover, our dependence on fossil fuels has meant vast emissions of greenhouse gases. This course, taught by The Washington Post's energy correspondent, will look at the supply and demand balance for oil; how U.S. transportation policy has fed the U.S. "addiction" to oil; the mix of nuclear, gas and coal used by utilities; what role renewable energy sources are playing and might play in the future.

We will touch on some of the international and domestic politics of energy, from the petro-states of Venezuela to the petro-state of Louisiana, from Russia's power over Europe's gas supplies to the impact of the oil spill in the Gulf of Mexico, from OPEC to Alaska.

In the end, students should be able to think about how they would balance issues of cost, security, and climate in fashioning a sensible, and doable, energy policy for the United States.

The course will be structured loosely on specific case studies or controversial issues. Readings – most of them newspaper or magazine articles, speeches or position papers – will be tailored to give different sides of these issues or cases, incorporating elements of history, economics and politics. The course will take advantage of being in Washington by including some guest speakers who are in the thick of energy legislation, lobbying, litigating and investing.

*Requirements:* Students will be expected to participate in class, take and defend positions, and play roles in hypothetical situations. There will be three short papers, about four to five pages each. Participation will count for 25% of the grade and each paper will count equally for the remaining 75% of the grade.

Recommended Books:
"The Prize" by Daniel Yergin.
"A Declaration of Energy Independence" by Jay Hakes

1. Introduction:

   We'll discuss broad themes and lay the groundwork for rest of the term.
   Topics: the early days of the U.S. oil industry, the emergence of giant oil

companies and trusts; the development of U.S. auto industry and highway system, and early federal policies ranging from depletion allowances to import taxes. Issues: Is Big Oil necessarily Bad Oil? Should oil companies continue to receive tax breaks? How might the nation's energy infrastructure be changed?

*Readings:*

"A Declaration of Energy Independence" by Jay Hakes pp: 11-41.

Brief excerpts from Ida Tarbell's "History of Standard Oil Company": http://www.pbs.org/wgbh/amex/rockefellers/sfeature/sf_7.html

"The Prize" by Daniel Yergin pp 541-558 on "hydrocarbon man."

2. The 1973 Oil Embargo and the Era of Price Shocks:

Everything changed with this first oil price shock and the sharp increase in oil prices. We'll look at the changes in U.S. supply and demand that made this shock possible; the politics of the Middle East and OPEC; the inelasticity of oil demand and vulnerability to supply changes at the margin of the market. We will also look at subsequent price shocks – in 1979 and 2008 – and discuss similarities and differences. Issue: Is there a peak for oil production? Has it already happened?

*Readings:*

"The Prize" by Daniel Yergin pp 588-632. Excerpts from "The Oil Crisis of 1973-1974: A Short History with Documents" edited and intro by Karen Merrill.

"The End of Energy" by Michael Graetz pp 137-154.

Hakes, Chapter 2.

"The Economics of an Integrated World Oil Market" by William Nordhaus: pp 1-13. http://nordhaus.econ.yale.edu/documents/iew_052909.pdf

3. The New Oil Shock:

In 2008, just a decade after The Economist ran a cover story about the seemingly endless oil glut, prices spiked again. We will discuss speculation, supply and demand, OPEC's role, China and the "demand shock" theory, the debate over whether to use the Strategic Petroleum Reserve, and the national security issue. And also a look at the rebound in oil prices in 2010-11.

*Readings:*

"Oil Shock" series from The Washington Post.

Article by Princeton economist Wei Xiong on speculation.

A Goldman Sachs investment analyst report on oil prices.

Articles from the Post on whether to release the Strategic Petroleum Reserve:
http://www.washingtonpost.com/wp-dyn/content/article/2011/03/07/AR2011030705078.html

"Why is oil at $86 a barrel today?" from Securing America's Future Energy group:
http://www.secureenergy.org/sites/default/files/SAFE_Intelligence_Report_3-6--2010.04.14.pdf

The peak oil debate: Matt Simmons presentation on "Peak Oil: Is It Real? When Might It Occur?"
http://www.oceanenergy.org/matthew_simmons_papers/2008/Kayne%20Anderson%20Energy%20Funds.pdf
OR: Matt Simmons presentation titled "Twilight in the Desert."
http://www.oceanenergy.org/matthew_simmons_papers/2008/Minnesota%20State%20of%20Representatives.pdf
Neil King article in WSJ on the peak oil debate.

4. Oil and national security:
From Roosevelt to Bush, the United States has moved to secure its supplies of oil.
*Readings:* Yergin: 368-408;
"A Crude Case for War" by Mufson in Post:
http://www.washingtonpost.com/wp-dyn/content/article/2008/03/14/AR2008031403677.html
"Oil Shockwave" – a role-playing exercise from 2007.
http://www.secureenergy.org/sites/default/files/747_Oil_Shockwave_Report_2007.pdf
*In-class exercise:* Students will be assigned roles to play in hypothetical national crisis.

5. Oil Frontiers:
a) Big Oil Treads Through the Ecuador Jungle:
Chevron and lawyers representing indigenous people from Ecuador's Amazon have been fighting for 15 years, and sometimes it seems as though they're just getting started. This may be a story where there aren't many good guys.
*Readings:*
"Jungle Law" by William Langewiesche in May 2007 issue of Vanity Fair
http://www.vanityfair.com/politics/features/2007/05/texaco200705
"Overexposed" by Michael D. Goldhaber in The American Lawyer:
http://amlawdaily.typepad.com/amlawdaily/2011/05/litigationspring2011donziger.html
OR: "Amazon Crusader. Chevron Pest. Fraud?" by Paul M. Barrett in Business Week March 9, 2011
http://www.businessweek.com/magazine/content/11_12/b4220056636512.htm
"Crude" a documentary
Excerpts from Chevron Web site.
b) In Too Deep? The Big Spill
A look at the massive Gulf of Mexico oil spill in 2010 and what it says about the direction of oil exploration, the shortcomings of technology and of government regulation.
*Readings:*
Various newspaper articles;
"American Petrostate" by Mufson in Post;

Excerpts from the report of the National Oil Spill Commission:
http://www.oilspillcommission.gov/final-report

6. Fukushima and the stillborn nuclear renaissance:
   It took years for the nuclear power industry to convince most people that it deserved another chance after Three Mile Island and Chernobyl. Then an earthquake destabilized four reactors at Japan's Fukushima Daiichi complex. We will look at three issues: the cost of nuclear power, waste disposal, and safety after Fukushima
   *Readings:*
   "Nuclear Power Primed for a Comeback" by Mufson in Post,
   http://www.washingtonpost.com/wp-dyn/content/article/2007/10/07/AR2007100701324.html
   "Nuclear projects face financial obstacles," by Mufson in Post.
   http://www.washingtonpost.com/wp-dyn/content/article/2010/03/01/AR2010030103975.html
   Executive summary of report by the Keystone Center:
   http://keystone.org/files/file/SPP/energy/NJFF-Exec-Summ-6_2007.pdf
   Allison Macfarlane testimony in 2006 on Yucca Mountain:
   http://belfercenter.ksg.harvard.edu/files/epw.testimony.long.march12006.pdf
   Victor Gilinsky on near accident at Ohio nuclear plant:
   http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&node=&contentId=A57994-2002Apr27&notFound=true
   Peter Bradford opposes loan guarantees: http://www.thegwpf.org/energy-news/1930-peter-bradford-nuclear-powers-search-for-the-taxpayers-wallet.html
   Sen. Alexander supports them:
   http://nuclearstreet.com/nuclear_power_industry_news/b/nuclear_power_news/archive/2010/06/16/senator-lamar-alexander-nuclear-power-is-the-most-reliable-and-useful-source-of-green-electricity-today-06162.aspx
   OR: http://www.aei.org/docLib/blueprint.pdf
   Assorted press articles on Fukushima accident.

7. Solutions?
   a) The Shale Gas Revolution:
   In recent years, technology advances have made it possible to tap vast natural gas reserves all over the United States. What effect has this had on the economics of other energy sources, such as coal and nuclear? What are the environmental hazards? If those are real, what sort of tradeoff should be made between those and coal?
   *Readings:* A report by the Secure America's Future Energy group:
   http://www.secureenergy.org/sites/default/files/1163_SAFEIntelligenceReport3920100701.pdf
   Various New York Times articles on hydro-fracking and shale gas. Short video from Chesapeake Energy OR company's fact sheet on drilling in Pennsylvania:
   http://www.chk.com/media/marcellusmediakits/marcellus_hydraulic_fracturing_fact_sheet.pdf

b) The Electric Car: Plug In Car and Tune Out Oil?
Obama policy statement;
Web sites for the new GM and Nissan vehicles.
Project Better Place's plan for swapping batteries – Business Week article about Shai Agassi and a Washington Post interview;
Various articles by Peter Whoriskey of The Washington Post;
*Issues:* Electric cars vs hybrids; battery technology, cost and disposal. Should the federal government be subsidizing electric cars?

8. Renewables: How much help should the government provide?

*Issues:* An overview of tax incentives; Renewable Portfolio Standards at state levels; Conflicts over wilderness areas and Cape; intermittent nature of wind and solar and the challenges of integration with the grid; who should pay for transmission, the developers, customers or taxpayers? Is stimulus seed money from DOE good or bad? The Amory Lovins vision of decentralized power;

9. Coal:

Mining can be dangerous, it's bad for the global climate, and it's tearing down the Appalachian mountains. But we still use coal to supply nearly half our electricity. Why? And can we turn coal into "clean coal"?

*Readings:*

AEP Web site on its carbon capture and storage project at its Mountaineer plant: http://www.aep.com/environmental/climatechange/carboncapture/

Michael Shnayerson "The Rape of Appalachia" in Vanity Fair May 2006: http://www.vanityfair.com/politics/features/2006/05/appalachia200605

"Clean Coal? Don't Try to Shovel That" by Jeff Biggers in Post: http://www.washingtonpost.com/wp-dyn/content/article/2008/02/29/AR2008022903390.html

Various newspaper articles.

10. How to fashion an energy policy:

Optional: video of Sen. Alexander speech at the American Enterprise Institute on energy policy: http://www.youtube.com/watch?v=n0VwPwUNyAk

President Obama's speech at Georgetown University

Nansen Saleri in WSJ on U.S. energy policy http://online.wsj.com/article/SB10001424052748703386704576186226825632 28.html

Exxon forecast of long-term energy trends

Robert Sokolov's paper about "wedges" needed to slow climate change.

"Building America's Energy Future: An Action Plan" by the National Energy Policy Institute

Newspaper articles and statements by members of Congress on a cap-and-trade policy. Newspaper articles about the failure of the Waxman-Markey legislation.