

SYLLABUS

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The USA & the Global Oil System

The formation and impact of American energy policy

John F.Kennedy [Institute](#) for North American Studies, Freie Universität. Berlin, Germany
 Summer 2014 (14 April – 19 July). Monday 14:00-16:00

Instructor: Dr. Thomas W, O'Donnell*

Course Description:

This post-graduate course is a multi-disciplinary examination of the USA as the historical initiator and predominant actor of today's global, market-centered petroleum system. This role is seen as a pillar of the USA's continuing superpower status, of its legitimacy amongst its OECD allies (EU, Japan, etc.) and as shaping its relations with China, Russia and OPEC producers. Attention is paid to how the USA's energy policy and geo-strategy are debated, developed and decided in Washington. The course shows how constantly evolving energy resources and technology in a global market-centered system shape American energy policy and geo-strategy.

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- Students must complete all assigned readings
- Students are assigned to summarize/comment on readings
- Class begins with instructor presentation
- The professor leads a Socratic discussion
- There will be a research paper developed in stages.

Office Hours: After class or by appointment

Required texts

- Yergin, Daniel, "The Prize: The Epic Quest for Oil, Money & Power," The Free Press, New York 1991 [Kindle Amazon](#)
- The Frackers: The Outrageous Inside Story of the New Billionaire Wildcatters, Gregory Zuckerman, 2013. [Kindle Amazon](#)

Links:

- Class homepage: http://www.umich.edu/~twod/oil_s2014
- Freie U. academic calendar: <http://www.fu-berlin.de/studium/studienorganisation/termine/index.html>
- Readings: <http://www.umich.edu/~twod/articlea>
- E-mail archive: http://www.umich.edu/~twod/oil_s2014/

Previous student research-group blogs:

- o [China Oil Affairs](http://chinaoilaffairs.blogspot.com/) <http://chinaoilaffairs.blogspot.com/>
- o [Rentismo & Dutch Disease](http://rentismo.blogspot.com/) <http://rentismo.blogspot.com/>
- o [Venezuelan Oil](http://venezuelanoil.blogspot.com/) <http://venezuelanoil.blogspot.com/>
- o [Middle East and North African Oil](http://menapetroleum.blogspot.com/) <http://menapetroleum.blogspot.com/>

Grading

- Preparation, class participation: 40%
- Presentation(s): 25%
- Research project/paper: 35%

Attendance:

- Maximum two absences

Class Pattern:

Classes

Class Number	1	2	No class	3	4	5	6	7	Holiday	8	9	10	11	12	Papers
Module	Part 1.1	Part 1.1-1.3,1.5	-	Part 1.4	Part 2.1	Part 2.2	Part 2.3	Part 3.5						Student Talks	
Date	14 Apr	21 Apr	28 Apr	5 May	12 May	19 May	26 May	2 Jun	9 Jun	16 Jun	23 Jun	30 Jun	7 Jul	14 Jul	21 Jul

Contents

PART 1: ENERGY RESOURCES, TECHNOLOGY & DEMAND..... 3

- 1.1 The world's available energy resources 3
 - Online energy data & analysis..... 3
- 1.2 USA energy institutes & analysts 3

1.3 Oil demand: automobiles & congestion	2
1.4 US Geological Survey v. “Peak Oil” school	3
1.5 Fracking: USA oil & gas revolution	4
1.6 Alternatives: Scientific, environmental & economic	4
2: POLITICAL ECONOMY OF ENERGY	6
2.1 OPEC Revolution: From neo-colonialism to global barrel	6
2.2 High Oil Prices 2003-08: Fundamentals or speculation?	6
2.2.1 Supply & demand	6
2.2.2 Futures market & speculation	6
2.3 Oil Rents, Rentier States, Dutch Disease & Resource Curse	7
PART 3: HISTORY: GEOPOLITICS OF ENERGY	8
3.1 Japan in WWII. Iran’s Mossadegh & US-British Coup	8
3.2 Suez Crisis. OPEC founding. Post-war oil age	8
3.3 Countries vs. companies. 1973 Arab-OPEC embargo	8
3.4 1979 Iranian revolution. Carter Doctrine. Second oil crisis	8
3.5 Overview OPEC: OPEC & OECD: From confrontation to collusion	8
4 USA: GEOPOLITICAL CRISES OF “THE GLOBAL BARREL”	9
4.1 The Iraq War	9
4.2 Iran-USA “nuclear” crisis & the global barrel	9
4.3 China v. USA: “Go abroad” mercantilism & the global barrel	9
4.4 The USA & EU v. Russia: energy geopolitics	9
4.5 The “new” resource nationalism: Hugo Chavez & Latin America	9
4.6 Arctic oil & geopolitics	9

PART 1: ENERGY RESOURCES, TECHNOLOGY & DEMAND

- The geo-distribution of the world's available oil, gas, coal and other primary-energy resources; alternative-fuel potential; energy-production technologies, and projections by region of demand for oil and gas (O&G) as transport fuels.
- Introduction to the main institutes in the USA and OECD for energy analysis, and to the main USA energy think tanks and analysts.
- The North American "energy revolution": O&G from hydraulic fracking in the USA and tar sands in Canada as a convergence of "highly developed" technology, R&D, infrastructure, finance and political factors; its impact on the global oil market and other producers.
- Critique of "Peak Oil"

1.1 The world's available energy resources

- o Instructor materials
 - o Lecture ([previous sample](#)): "The world's available energy resources, and their use 2006-2030"
 - o O'Donnell, T.W., "Global Oil to 2030: A Quantitative Assessment in the Context of International Affairs"; International Relations and Security Network (ISN), Zurich, Switzerland; 2 May 2007. From [ISN](#) or [local](#) [Note: a pre-fracking assessment]
- **Online energy data & analysis**
 - o [Energy Information Agency](#) (EIA) of the USA Department of Energy (DOE)
 - [Country Analysis](#) Briefs
 - [Annual Energy Outlook](#) Retrospective Review, Release Date: April 7, 2014.
 - o [International Energy Agency](#) (IEA) of the OECD
 - 2013 World Energy Outlook (WEO): [FU direct link](#), or [IEA site](#).
 - [Press Release](#); [Presentation to Press](#); [Factsheets](#); Sample: [WEO-2013 Chapter 6 - Renewable Energy Outlook](#)
 - o [CIA Country Briefs](#) and select a country to view
 - o BP Statistical Review of [World Energy to 2035](#) plus Historical Data Series since 1965.
 - o [Oil and Gas Journal](#) The premier technical and economic O&G journal
 - o [Joint Organizations Data Initiative](#) (JODI) of the [International Energy Forum Secretariat](#) (IEFS)
 - Links to other databases are at JODI: UNSD, OPEC, IEF, IEA, EUROSTAT, OLADE
 - o [International Association for Energy Economics](#) (IAEE) and the [US Association for Energy Economics](#) (USAEE)
 - This professional society publishes the "[Energy Journal](#)"
 - o UN Intergovernmental Panel on Climate Change (IPCC) [2014 AR5 Three Volumes](#)
 - o [Natural Gas Europe](#) journal
 - o Unconventional oil & gas
 - U.S. Shale Gas & Shale Oil Plays. [Review of Emerging Resources](#), US EIA, July 2011.
 - Technically Recoverable [Shale Oil and Shale Gas Resources](#): An Assessment of 137 Shale Formations in 41 Countries outside the United States, US EIA, June 10, 2013. [Overview Full Report \(EIA/ARI\)](#)
 - US Geological Service, "[World Petroleum Assessment 2000](#)

1.2 USA energy institutes & analysts

- Center for Strategic and International Studies (CSIS): [Energy and National Security Program](#)
 - o [Unconventional Resources](#)
 - o [Outlooks and Forecasts](#): A resource to find and analyze energy forecasts and to provide access to enlightening discussions with the people behind their creation
 - o [18th Annual NCAC-USAEE Energy Policy Conference](#):
 - Disruptive Technologies Shock All Energy Sectors We didn't see them coming. We don't know what's next. How will they shape the future? (Note: Links to most talks/ppt files & videos)
- Council on Foreign Relations (CFR) & Foreign Affairs magazine
 - o What to [Read on Oil](#), By Edward L. Morse, Foreign Affairs, December 4, 2009.
- Brookings Institution: [Energy Program](#)
 - o Paper: [Fueling a New Order?](#) The New Geopolitical and Security Consequences of Energy: By: Bruce Jones, David Steven and Emily O'Brien, April 15, 2011
- [Baker Institute](#) for Energy, at Rice University, Houston, Texas

1.3 Oil demand: automobiles & congestion

- Demand for automobiles; patterns and consequences for oil demand to 2030
 - o [Vehicle Ownership](#) and Income Growth, Worldwide: 1960-2030, by Joyce Dargay, Dermot Gately and Martin Sommer, The Energy Journal, International Association for Energy Economics, vol. 0(Number 4), pages 143-170. January 2007.
 - o Automotive growth double s-curve. History of tech. revolutions ([online Link from NWAEG talk](#))
 - Congestion
-

- Seabrook, John, "The Slow Lane, Can anyone solve the problem of traffic?" [The New Yorker](#), Issue of 2002-09-02, Posted 2002-08-26
- [Optional] Physical Review Letters, Dutch articles in PRL on congestion

1.4 US Geological Survey v. "Peak Oil" school

- Would peak oil really mean "an end of industrial society"?
 - O'Donnell, T.W., "[Theories of a Global-Oil Crisis](#)" [Draft] January, 2006. *Fragment on (neo)-Malthusian social policy of "Peak Oil" school*
- USGS (US Geological Survey) assessment of world oil resources.
 - "[Long Term World Oil Supply](#): A Resource Base / Production Path Analysis" Energy Information Administration (EIA), DOE, 2000.
 - [Optional] "U.S. Geological Survey [World Petroleum Assessment 2000](#) – Description and Results" "Chapter ES" (i.e., "Executive. Summary"):
 - [Optional] The [USGS 2000 report](#) used in, the above report "Long Term World Oil Supply: *Often referred to very negatively by adherents of Peak Oil*
- Peak Oil school's predictions
 - Simons, Matthew, "[Twilight in the Desert: The Coming Oil Shock](#)" (1 hour video about his book) at Cambridge Forum, 2012. *Simmons was a major proponent of the "Peak Oil" school*
 - Association for the Study of Peak Oil (ASPO) [website](#)
 - The Oil Drum [website archive](#) Stopped in 2013: Views of many "Peak Oil" theorist
 - Campbell, C., Laherrere, J.H., "[The End of Oil](#)," Scientific American, March 1998.
 - Goodstein, David, "[Thesis: The End of Oil](#)," Nature Physics, 01 May 2007, p. 291 (at bottom of page)
 - Goodstein, David, "Out of Gas: The End of the Age of Oil," Norton, New York, 2004. (132 pp.)
- Technical & Scientific arguments against Peak Oil
 - The New Old Economy: [Oil, Computers and the Reinvention of the Earth](#), The Atlantic Monthly (in three parts), Jonathan Rauch, January 2001.

1.5 Fracking: USA oil & gas revolution

- Books:
 - [The Frackers](#): The Outrageous Inside Story of the New Billionaire Wildcatters, Gregory Zuckerman
 - [Book Review](#): 'The Frackers' tells a one-sided account of the new energy boom, In 'The Frackers,' Gregory Zuckerman presents inspiring profiles of the new energy magnates but shortchanges environmental concerns. Los Angeles Times, November 21, 2013. By Bill McKibben
 - [The Boom](#): How Fracking Ignited the American Energy Revolution and Changed the World, by Russell Gold, 2014.
- Articles:
 - [Power to the People](#): What Will Fuel the Future? By Gideon Rose and Jonathan Tepperman, Foreign Affairs, May/June 2014 [article & video are free at Foreign Affairs]
 - Foreign Affairs Focus: [Fred Krupp on Fracking](#) and the Environment. By Gideon Rose and Fred Krupp, April 21, 2014. [or: [YouTube link](#) also [Transcript & Author Biography](#)]
 - "The right way to develop shale gas" By Michael R. Bloomberg and Fred Krupp, April 29, 2014: NYTimes [Op-Ed](#)
 - [The Missing Shale Miracle](#): Why Cheap Energy Won't Spark a U.S. Manufacturing Renaissance. By Nikos Tsafos Foreign Affairs, March 23, 2014. [[local link](#)]
 - [Liquefied Natural Profits](#): The United States and the Remaking of the Global Energy Economy, By Amy Myers Jaffe and Edward L. Morse, Foreign Affairs, September 16, 2013. [[local link](#)]
 - [America's Energy Edge](#): The Geopolitical Consequences of the Shale Revolution, By Robert D. Blackwill and Meghan L. O'Sullivan Foreign Affairs, March/April 2014. [[alternate link at ISN](#)]
 - Part of the: Energy and National Security
 - [The Geostrategic Implications](#) of the Unconventional Oil and Gas Revolution (Featured Report of CSIS: "New Energy, New Geopolitics: Balancing Stability and Leverage" research project)
 - [The Geopolitics of Energy](#): Emerging Trends, Changing Landscapes, Uncertain Times", By Frank A. Verrastro, Sarah Ladislav, Matthew Frank, Lisa Hyland, Contributor: James R. Schlesinger, Oct. 29, 2010.

1.6 Alternatives: Scientific, environmental & economic

- Lecture: The agricultural impact of bio fuels. Is ethanol effective? etc. [[insert ppt link](#)]
- Fossil Fuel Alternatives: Oil sands, shale oil, Gas and/or Coal to Liquid
 - "America's Oil Shale Resource," Office of Deputy Assistant Secretary for Petroleum Reserves, Office of Naval Petroleum and Shale Oil Reserves, DOE [DOE/NPOSR], March 2004, Washington, D.C.
 - Volume I: "Assessment of Strategic Issues," Read pp. 1 – 15; but especially pp. 10 – 15. http://www.umich.edu/~twod/oil-ns/articles/npr_strategic_significancev1.pdf

- Volume 2: “Oil Shale Resources Technology and Economics.” http://www.umich.edu/~twod/oil-ns/articles/npr_strategic_significancev2.pdf
 - Section 4, “Analogy to Canada’s Tar Sands Commercialization,” pp. 28– 34
 - Conclusions” p. 35
 - [Optional] Section 3, “Environmental and Regulatory Issues,” pp. 22 – 28.
 - [Optional] Appendix B: “Oil Shale Technologies (to 1991)”, pp. B-1 - B-5
- [Optional] Bunger, J.W., Crawford, P.M., Johnson, H.R., “Is Shale Oil America’s Answer to Peak-Oil Challenge?” Oil and Gas Journal, 9 August 2004: <http://www.fossil.energy.gov/programs/reserves/publications/Pubs-NPR/40010-373.pdf> *Article with good graphics*
- [Optional] International Centre for Heavy Hydrocarbons, <http://www.oildrop.org/downloads.html>
- Bio-Fuel Alternatives: Ethanol and Bio-diesel
 - Sanderson, Katharine, “A Field in Ferment: To move US bio-fuels beyond subsidized corn will be a challenge”, Nature, Vol. 444, 7 December 2006, pp. 673 – 676. http://www.umich.edu/~twod/oil-ns/articles/nature_corn-bio-fuel444673a07dec06.pdf
 - Farrell A.E. et al, “Ethanol Can Contribute to Energy and Environmental Goals,” Science, Vol. 311, p. 506 – 508, January 2005, on feasibility of corn based ethanol. http://www.umich.edu/~twod/oil-ns/articles/science_ethanol_farrell_feb06.pdf
 - Letters to Editor of Science on above article http://www.umich.edu/~twod/oil-ns/articles/science_ferrel_ethanol_letters_jan06.pdf *See especially Letters on effect on agriculture: “Looking at Bio-fuels and Bio-energy,” “Harvesting our Meadows for Biofuel?” and etc.*
 - [Optional] Castro, Fidel, “Reflections by President Fidel Castro: It is imperative to have an immediate energy revolution,” Grandma, 1 May 2007. p. 1. (English translation) http://www.umich.edu/~twod/oil-ns/articles/castro_bio-fuels_01may07.pdf *Castro’s critique of sugarcane-based ethanol as depriving the poor of food.*
- Hydrogen Fuel Alternatives (Note: really an energy storage medium, not a fuel per se)
 - American Physical Society (APS) Committee Report on Bush Administration’s Hydrogen Economy Program. “The Hydrogen Initiative: Current technology is promising but not competitive. More emphasis needed on solving fundamental science problems.” Full Report of APS Panel on Public Affairs, March 2004: <http://www.aps.org/policy/reports/popa-reports/upload/hydrogen.pdf>
 - [Optional] APS webpage on media discussion of report’s release <http://www.aps.org/publications/apsnews/200405/hydrogen.cfm>
 - [Optional] Presentation by Mildred Dresselhaus of MIT on the APS report: http://www.aps.org/meetings/multimedia/upload/Mildred_Dresselhaus.pdf

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2: POLITICAL ECONOMY OF ENERGY

- The global, market-based, collective energy-security system: “the global barrel.” The predominant role of the USA and the roles of the OECD states and the International Energy Agency, of OPEC and especially Saudi Arabia and of the International Energy Forum (IEF), and increasingly China.
- Theories prominent in the USA as to the drivers of spot and futures market prices for oil (e.g., the arguments for financial speculation as versus market fundamentals, on OPEC “cartel” production policies, etc.), the role of lax commodity-futures regulations in the US, of the US dollar as the oil market’s universal currency, and etc.
- Natural-resource rents is included.

2.1 OPEC Revolution: From neo-colonialism to one “global barrel” market

- Lecture: "[Political-Economy of Global Oil Order](#): Demand, Resources, Technology and U.S. Policy."
- Read
 - O'Donnell, Thomas, 2006/2011, "[The political-economy of the globalized oil order](#): How “objective conditions” drove the OECD and OPEC from confrontation to collusion,” 48 pp. (Draft)
 - O'Donnell, T.W., "[The Political Economy of Oil in the U.S.-Iran Crisis](#): U.S. globalized oil interests vs. Iranian regional interests," O'Donnell, Thomas, 39 pp. plus figures
 - Yergin, Daniel, "[Ensuring Energy Security](#)," *Foreign Affairs*, March / April, 2005, pp. 69–82.
 - Yergin, Daniel, "[Supply Diversity No Longer Key to Energy Security](#)," Daniel Yergin Says; Entire Supply Infrastructure Must be Protected; Conservation is 'Underrated'," Foster Natural Gas Report, Section: Report No. 2586; Pg. 7, April 7, 2006.

2.2 High Oil Prices 2003-08: Fundamentals or speculation?

2.2.1 Supply & demand

- Read
 - Reich, Oliver, "[Oil Supply and Demand](#)," Newsletter of International Association of Energy Economics, Second Quarter, 2006, pp.15-19. *Author is from Institute Francais du Petrole [IFP] School, Paris.*
 - Guy Caruso, former Administrator, U.S. Energy Information Agency (EIA) of the US DoE, Congressional Testimony on High Oil Prices, 2008 ([include link](#))

2.2.2 Futures market & speculation

- Read
 - Richard Newell, Administrator, U.S. EIA, Short-Term and Winter Fuels Outlook, New York Energy Forum, October 18, 2010 (last two, supplementary slides; argument similar to G. Caruso's):
http://www.nyenergyforum.org/app/filemgmt_data/files/NY_Energy_Forum_10-18-2010%5B1%5D.pdf
 - The Impact of Financial Reforms on Energy Markets, materials provided by Michael Greenberger, School of Law, University of Maryland and Advisor to UN Commission of Experts on Reforms of the International Monetary and Financial System (*Author's Congressional testimony was major factor in financial regulation reform act of 2010*) See: NY Energy Forum presentation, 15 Sept. 2010 at: <http://www.nyenergyforum.org/app/filemgmt/index.php?topic=r> , or go directly to following links:
 - “The Role of Derivatives in the Financial Crisis” Before the Financial Crisis Inquiry Commission (June 30, 2010). Written Testimony: http://www.michaelgreenberger.com/files/FCIC-Michael_Greenberger_Testimony.pdf
 - “The Relationship of Unregulated Excessive Speculation to Oil Market Price Volatility” Prepared for the International Energy Forum (Jan15, 2010)
<http://www.michaelgreenberger.com/files/IEF-Greenberger-AppendixVII.pdf>
 - “Excessive Speculation: Position Limits and Exemptions” Before the Commodity Futures Trading Commission (Aug. 5, 2009). Written Testimony:
http://www.michaelgreenberger.com/files/CFTC_AFR_Sign_On_Testimony_August_3.pdf
 - “Energy Speculation: Is Greater Regulation Necessary to Stop Price Manipulation? – Part II” Before the House Energy and Commerce Subcommittee on Oversight and Investigations (June 23, 2008). Written Testimony:
http://www.michaelgreenberger.com/files/June_23_2008_testimony.pdf
- Watch
 - *60 Minutes*: Speculation Affected Oil Price Swings More Than Supply And Demand (Jan. 11, 2009)
 - Video Part 1 <http://www.youtube.com/watch?v=JQqEkrwBihY>
 - Video Part 2 <http://www.youtube.com/watch?v=FRlixfmr-zA>
 - Transcript: <http://www.cbsnews.com/stories/2009/01/08/60minutes/main4707770.shtml>
 - *Frontline*: The Warning: Long before the meltdown, one woman tried to warn about a threat to the financial system
 - PBS Video: <http://video.pbs.org/video/1302794657>
 - Transcript: http://www-tc.pbs.org/cove-media/http/PBS_CP_FRONTLINE/219/453/2802.txt
 - Timeline: <http://www.pbs.org/wgbh/pages/frontline/warning/cron/>
 - Extended interviews <http://www.pbs.org/wgbh/pages/frontline/warning/interviews/>

2.3 Oil Rents, Rentier States, Dutch Disease & Resource Curse

- Read

On the *Rentier State, Resource Curse, Oil & Democracy, etc.*

- Mahdavy, H. 1970 "The Patterns and Problems of Economic Development in *Rentier States: the Case of Iran*," in *Studies in the Economic History of the Middle East: from the rise of Islam to the present day*, M. A. Cook [ed]. London: Oxford University Press. <http://www.umich.edu/~twod/oil-s2010/rents/Mahdavy.pdf>
- Michael Ross 2001. "Does Oil Hinder Democracy" *World Politics* 53 (Apr 2001). Available online: <http://www.sscnet.ucla.edu/polisci/faculty/ross/doesoil.pdf>
- Benjamin Smith 2004. "Oil Wealth and Regime Survival in the Developing World," 1960-1999, *American Journal of Political Science*. http://www.umich.edu/~twod/oil-s2010/rents/Smith_OilRegimes.pdf
- Timothy Mitchell 2009. "Carbon Democracy," *Economy and Society*, vol. 38, issue 3. *Theories of Petroleum Rents* <http://www.umich.edu/~twod/oil-s2010/rents/CarbonDemocracyMitchell.pdf>
- Stephen Haber and Victor Menaldo, "Do Natural Resources Fuel Authoritarianism? A Reappraisal of the Resource Curse," *American Political Science Review*, February 2011, 26 pp. [doi:10.1017/S0003055410000584] <https://iriss.stanford.edu/sites/all/files/sshp/docs/Haber%20and%20Menaldo%20APSR%202011.pdf>

On Dutch Disease

- (references from my article on politics of Venezuela, references sent to Grisanti/AVHI, Caracas)
- *The Paradox of Plenty: Oil Booms and Petro-States*. Berkeley: University of California Press, 1997: 342 pages

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PART 3: HISTORY: GEOPOLITICS OF ENERGY

- Outline of Yergin's The Prize. Long and often chatty; but it is 'the' history of oil. http://www.umich.edu/~twod/oil-ns/articles/yergin_prize_outline.html

3.1 Japan in WWII. Iran's Mossadegh & US-British Coup

- Yergin, Chapter 18: "Japan's Achilles' Heel," pp. 351-367.
 - Japanese (and German) oil problems in WWII, the key military and geo-strategic role of oil
- Yergin, Chapter 23: "'Old Mossy' and the struggle for Iran" pp. 450-478
 - Mossadegh, the nationalization of Iranian oil and the U.S. & British coup, early 1950's
- [Optional] Hiro, Dilip, The Iranian Labyrinth Chapter 7, Oil: Life Blood of Modern Iran, pp. 183-208

3.2 Suez Crisis. OPEC founding. Post-war oil age

- Yergin, Chapter 24: The Suez Crisis, pp. 479-498
 - The Suez Crisis, and 1950's continued: U.S. displaces British-French attempt to regain MENA dominance; Israel sides with Britain and France; Iran in 1950s
- [Optional] Yergin, Chapter 25, The Elephants, pp. 499-518
- Yergin, Chapter 26, OPEC and the Surge Pot, pp. 519-540
 - Formation of OPEC; late-50's and early 60's
- [Optional] Yergin, Chapter 27: Hydrocarbon Man, pp. 541-560
 - Post-War oil age; oil and transportation lobby. Conservation.

3.3 Countries vs. companies. 1973 Arab-OPEC embargo

- Yergin, Chapter 28: The Hinge Years: Countries versus Companies, pp. 561-568
- Yergin, Chapter 29: The Oil '73, pp. 588-612
 - First Energy Crisis
- Yergin, Chapter 30: Bidding for Our Life, pp. 613-63
- [optional] Yergin, Chapter 31: OPEC's Imperium, pp. 633-652

3.4 1979 Iranian revolution. Carter Doctrine. Second oil crisis

- Yergin, Chapter 32: The Adjustment, pp. 653-673
 - Iranian Revolution; Carter Doctrine; Rapid Deployment forces
- Yergin, Chapter 33: The Second Shock: The Great Panic, pp. 674-698
- Yergin Chapter 34: We're Going Down, pp. 699-714

3.5 Overview: OPEC & OECD: From confrontation to collusion

- Yergin, Chapter 35: Just another Commodity? pp. 714-744
- Yergin, Chapter 36: The Good Sweating: How Low Can it Go? p. 745-768

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4 USA: GEOPOLITICAL CRISES OF “THE GLOBAL BARREL”

4.1 The Iraq War

- Yergin, Epilog: pp. 769-788
 - 1991 Gulf War; structure of new globalized oil order vs. late-colonial order {6, 5, 4 }
- Hertzmark, D.A. & Jaffe, A.M., “Iraqi National Oil Company Case Study” IAEE Newsletter, 4th Quarter 2005, pp. 5 – 12. http://www.umich.edu/~twod/oil-ns/articles/iraq/05fall_iaee_newsletter_iraq_oil_jaffe.pdf

4.2 Iran-USA “nuclear” crisis & the global barrel

4.3 China v. USA: “Go abroad” mercantilism & the global barrel

4.4 The USA & EU v. Russia: energy geopolitics

- Pipeline Problems: Ukraine Isn't Europe's Biggest Energy Risk, By Brenda Shaffer, MARCH 11, 2014. <http://www.foreignaffairs.com/articles/141023/brenda-shaffer/pipeline-problems?nocache=1>
- Globalize (internationalize) gas using LNG?
- ...

4.5 The “new” resource nationalism: Hugo Chavez & Latin America

- Mommer, Bernard, System of governance (post link)

4.6 Arctic oil & geopolitics

- Borgerson, Scott G. "Arctic Meltdown." Foreign Affairs 87, no. 2 (2008): 63-77 (Available through The New School online library)
- Kefferputz, Roderick. “On Thin Ice? (Mis)interpreting Russian Policy in the High North.” Centre for European Policy Studies (2010) <http://www.ceps.be/book/thin-ice-misinterpreting-russian-policy-high-north>
- Young, Oren. “The Pace of Change. Arctic State Changes: Implications for Governance,” 2030 North, National Planning Conference, Session Paper no. 2. (Presented June 2009, Ottawa, Ontario, Canada) <http://www.2030north.carc.org/documents.php>

[THE END]
