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Master of International Affairs
Fall Semester 2018
Course Syllabus

Hertie School of Governance

E1209: Geopolitics of Global Oil & Gas Markets
Dr. Thomas W. O'Donnell

General information

Class time	Thursdays, 14-1600 (*except no class Tue, 11 October. Makeup this class Tues, 6 December)
Venue	Room 2.32
Instructor	Dr. Thomas W. O'Donnell
Instructor's office	Varies (ask at front desk)
Instructor's e-mail	twod@umich.edu
Instructor's phone number	+49 176 92 11 89 28 (Cell) Students are welcome to call my cell as needed
Assistant	Name: Andrea Derichs-Carlin Email: adjunctsupport@hertie-school.org Phone: +49 30 259 219 312 Room: 2.55
Instructor's Office Hours	Immediately following class, or by appointment.

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Instructor Information:

Dr. Thomas W. O'Donnell is an academic and analyst of energy and international affairs, particularly the global oil and gas systems. This has included OPEC Middle-East and Latin-American states, the EU, Russia and China, and especially US policy. He taught at The University of Michigan (Ann Arbor), in Grad Economics and esp. Grad. International Affairs (GPIA) at The New School University (NYC); at *Freie Universität* (Berlin) in both the JFK Institute of N. American Studies, and presently FU-BEST (European Studies Program). O'Donnell blogs at *GlobalBarrel.com* and has recently written for *Berlin Policy Journal* (Berlin), *Americas Quarterly* (NYC/DC), *Petroguía* (Caracas/LatAm), AICGS (DC) and is often interviewed by the international press. In 2015 Dr. O'Donnell was a fellow of the American Institute of Contemporary German Studies (AICGS) & DAAD (Wash.) interviewing US energy experts on German and EU energy vulnerabilities. He spent two years (2008-09) as US-Fulbright Scholar/Visiting Prof. in Caracas at the Center for the Study of Development, Central Univ. of Venezuela (CENDES/UCV). He is Senior Energy Desk Analyst at Wikistrat, and consults on energy, geopolitical and market/tech matters. O'Donnell's PhD is in experimental nuclear physics (U. Michigan, Ann Arbor); authoring 40+ peer-reviewed physics papers. Earlier, he spent 10+ years writing and as an organizer of US labor and social/political movements, incl. numerous industrial strikes, community and university mass protests re. the Vietnam War, minority rights, "de-industrialization," etc. Later, doing physics and complex-systems research at U. Michigan, he taught courses in Science Technology & Society, Mideast Studies, Information Society, Physics, etc. He speaks English, Spanish and functional German. - CV: *TomOD.com*.

2. Course Contents and Learning Objectives

Summary of content

A central theoretical underpinning of the course is how the political economy of oil has differed in the neo-colonial era, a transition period, and the current globalized capitalist era, imbuing the geopolitical "role of oil" (or gas) and related conflicts in each respective era with differing logic, constraints and imperatives. (See class website). The goal of the first nine or ten sessions is to prepare students to engage meaningfully with both their research project topic, and with experts from energy diplomacy and industry invited to speak with the class during two later sessions. These generally offer divergent points of view given current energy/geopolitical realities and conflicts.

1st OIL: We begin with a historical political-economic framing of today's "one global barrel" market-centered oil system, in contrast to the late-neo-colonial, non-market system that succumbed to the OPEC Revolution's nationalizations and the two energy crises of the 1970s. This global market is itself the key element of today's collective international oil-security system. After reviewing the extent and geo-location of energy resources and production, recent technological advances, sources of demand and oil-price history. We then examine the role of the US among OECD states as the present system's initiator, and the gradual development of its market-centered norms and control institutions including: spot and futures markets traded in dollars, the role of the OECD's International Energy Agency (IEA) in the strategic-petroleum-reserve (SPR) treaty system and in providing transparent market data and analysis, the system-control roles if the OECD/IEA (esp. the USA), of OPEC (esp. of Saudi Arabia) and OPEC's new coordination with Russia and etc.

From this political-economic framing, we examine the geostrategic "role of oil" by studying selected conflicts in each distinct period, including: (a) the Non-Market/Neo-Colonial Era (viz., German oil strategy in WWII; the 1956 Suez Crisis; Iran's 1953 oil nationalization and the US-British coup; the USA's MENA-regional ascendency via non-military means); (b) the Transition Period (viz., 1973 Arab-Israeli War and AOPEC embargo, 1979 Iran Revolution and the 1985 Saudi "net back" crisis); and (c) today's Global-Market era (viz., the 1991 & 2002 Iraq Wars; the US-Iran "nuclear" confrontation under Bush and Obama; Trump's JPCOA exit, maximalist demands and renewed sanctions, together with Saudi-Iranian regional contention – and prospects for US intervention and/or a regional war). In this, we consider Trump's "energy dominance" policy as the USA fracking revolution has made it the biggest oil and gas producer. Throughout, roles/interests of China, Russia and EU states are considered.

2nd GAS: Gas demand is increasing as coal (and in Germany, nuclear) is phased out. Gas also provides needed rapid response to variable wind and solar; and liquefied natural gas (LNG) is displacing diesel in heavy trucking and ocean shipping. As German and N. EU pipeline supplies reduce to a "duopoly" of Norway and esp. Russia, the EU faces an imperative to diversify supplies. In this regard we examine EU/German policies regarding the Ukraine crisis, and repeated Russian gas-transit cutoffs. This relates to the crisis of German energy-security involving (a) complications in its *Energiewende* (b) its strategy of avoiding risks from the Ukrainian-Russia conflict by taking over Ukraine's Russian-gas-importing role (i.e., Nord Stream 2) and opposition by the USA and most Eastern, Central and Nordic European states.

We examine how the fracking revolution has made the USA since 2011 the world's main producer of natural gas (and oil since 2014), building massive liquid natural gas (LNG) export capacity, along with Australia and Qatar, and as Russia hopes to do. The majority of long-distance traded gas will no longer depend on pipelines, but mainly be traded by ships, bringing about a globalized gas system, with few locked-in, bi-lateral, pipeline-based dependencies, and with regional prices gradually unifying into a global market, shifting the geopolitics of gas to resemble that of oil.

Main learning objectives

This course provides an introduction to the global oil-market system and, secondarily, the increasingly internationalized gas market, and their geopolitics. The objective is for students to attain a theoretical understanding of the interrelationship of energy markets and geopolitics, informed by factual and historical insights. Students become familiar with especially the analysis-and-policy-making motivations and processes in Washington and the USA generally, in comparison to esp. Berlin, Moscow, Beijing, Tehran and Riyadh.

Target group

Students with intention of working in an energy or resource-related fields, or international conflict topics, whether via business, diplomacy or NGO's, can especially benefit; so too those interested in renewable energy issues where a realistic/factual understanding of the oil-and-gas system is essential. While this particular course is not about problems of social/political/economic development, about a "resource curse" or corruption, etc. effecting many oil- and resource-export-dependent countries; nevertheless its themes are fundamental background for anyone wanting to work in those areas.

Teaching style

Classes are conducted as much as possible as a seminar (depending on size of the class) with in-depth discussion. However there is considerable material to present and generally this requires a structured lecture, with PPT. This may be synergistic to the readings, or an alternative narrative. However, lectures are conducted Socratically, that is, interactively challenging students to explore issues and meanings as it progresses.

There is a tension between presenting new material of a certain complexity and also engaging in discussions and debate within only two hours. This requires students to prepare by closely reading assignments and looking into issues, coming with questions, observations and ideas. Sometimes readings are closely followed in class, but often they are background for alternative or further narratives presented in the lecture for which there are no adequate readings available. The instructor tends to include some of his own writings, and relate direct-experiences in past and present controversies/crises as appropriate.

It is expected that professional/graduate students generally go beyond assigned readings, reflecting on and briefly researching issues raised in the readings before each session (e.g., Googling and Wikipedia are helpful while reading on unfamiliar topics). Readings are generally of moderate length by US grad-school standards. Nevertheless, clearly a percentage of students do not complete readings or reflect much on what was read.

The instructor's view is that in a professional, graduate-level course, esp. with second-year students, capacity to read and engage with significant new material is assumed. Accordingly, there are no reading-quizzes or pro-forma reaction papers assigned to induce students to read and prepare. (Though, as a means to survey students' points-of-view on topics that arise in discussion, assigning a brief reflection to be e-mailed shortly *after a class discussion* can be useful. This might be done).

It is encouraged to come with questions as well as insights, as raising these in class is very helpful to everyone's understanding process. The participation grade is traditionally a rather small proportion of the total at Hertie; however, students' level of engagement is frequently reflected in the quality of analysis in one's semester-research presentation and paper.

The basis for a good grade is not the absolute level of understanding or knowledge – as students often start from very different past exposure to these topics – but rather demonstrated advancement from where one starts.

Lastly, on matters of analysis, one certainly need not accept the standard theoretical framework and/or the one given by the instructor, but one must demonstrate they understand and have engaged with these when presenting their own alternative(s).

Prerequisites:

The course is multidisciplinary. Any previous knowledge of resource economics, international relations and esp. history of 20th-century international relations will facilitate understanding; but these are by no means pre-requisites. In addition willingness to engage with issues of oil and gas resources and technology is helpful. Students generally come from different nation states and ideological persuasions; however, a willingness to respectfully engage – even in the course of currently ongoing conflicts – is necessary to attain a sober political-economic and geopolitical understanding of why other societies (and one's own) pursue the policies which they pursue.

3. Grading and Assignments

Course requirements

i. **Preparation for and active participation** in classes generally.

ii. **Students choose a semester research focus**:
   a. By the second class, students declare a semester topical focus, which will lead to a semester research paper.
   b. A one-paragraph abstract of the proposed/declared project is submitted before the second class. It will be critiqued and graded; revision may be required, or selection of a new topic if necessary.
   c. A topic closely related to the one of the semester's class topics is selected from a list given in the first class.
   d. Generally 3 (+/-1) students collaborate on a topic/project. This is generally very fruitful, producing a group presentation and paper. This need not be decided immediately; once abstracts are returned, a list of students and their approved topics is produced facilitating formation of groups. These collaborations are subject to approval by the professor before the mid-term break, and often involve some reworking of individual students' foci within the common research focus.
   e. The final, independent research paper must nonetheless demonstrate connections with/familiarity with the topics and theoretical framework of the class. It may of course present alternative theories and contest any facts and history presented, but it must do so by minimally and *explicitly* connecting with/contesting those ideas so as to demonstrate mastery of the material of the course.
   f. The work must be original research; done for this course. Students may not repeat the topic of their Hertie Thesis or a previous research paper, etc. without specifically discussing this with the professor. It might be perfectly fine, but has to be approved.
   g. For joint projects, the proposal should indicate the sub-topical responsibility and/or focus of each student within the project; introductory and/or summary sections are generally done in common. It should be possible to discern individual student's contributions. Grades are individual, and might not be the same for all in the group; though generally they are.

iii. Consultation-meeting with Instructor
   a. The instructor is available to discuss and look over students' ongoing research and writing throughout the semester.
   b. All students must meet at least once during their project for a consultative discussion, no later than the 8th class.

iv. **Grading of research project**
   a. Each step (abstract of proposal, consultation, presentation, and final document) has the following weighting components and each will be addressed by the instructor as part of his feedback, so that students are aware of reasons for their grade:
      i. Demonstrated adequacy of research effort (55%)
      ii. Language, syntax, clarity (10%)
      iii. Norms of referencing and structuring of the document/presentation (10%)

iv. Summary, conclusions and/or thesis presented (25%).

b. Note: While new, "deep insights" are welcomed, students are generally new to these issues and weight will be given to the demonstration of significant new learning and understanding (i.e., as opposed to formalistic over-theorizing).

i. For example, a well-researched and summarized study of an historical economic or geopolitical event/crisis that significantly expands the student's previous knowledge is quite valuable.

ii. It is also important that in your paper you engage with ideas developed within the class that might apply to your topic—demonstrating that you are aware of these themes, whether or not your work is in agreement.

v. Contribution to Your Specific Topic's Class

a. The students specializing on a given topic will also be responsible to prepare and to make special contribution(s) to that particular class. Depending on class size, 12=20 minutes per group, including discussion, is the norm. This should involve a brief Power Point.

b. It should involve research beyond the day's assigned readings. Generally students present a piece of their overall research topic (consult on this with the prof. a couple weeks before), which they feel will be most interesting and useful for the class. At least five (5) minutes for discussion should be included after ending with a slide giving the main takeaways and/or positions taken by major actors, to facilitate comments.

c. The PowerPoint should be e-mailed to the professor by midnight, the night before class. USE ONLY PowerPoint files, do not send a PDF or Google Doc presentation.

vi. **The Final Paper - Technical Details:**

a. Due the evening before the 10th class.

b. Paper body length (w/o footnotes and references) is 2800 +/- 100 words (i.e., 10-12 pp. given 250-275/page), with the maximum that will be read 3000).

c. Use consecutively numbered FOOTNOTES for references. All sources which are electronically available should include a good link to the material within a standard reference format, and include page numbers where locating the referenced point(s) or quote is not obvious.

d. Submit as MS WORD to permit instructor's comments using MS "review" facility. DO NOT SUBMIT AS PDF.

e. Entitle the attached document (no caps) as "lastnameA_LastnameB-one-word-topic_ddmmmyy.docx (Example: "cooper_herrmann_china_22dec17.docx") and mail as attachment to instructor twod@umich.edu with subject SAME AS PAPER TITLE.

vii. **Final Student Presentations**

a. The 12th class is dedicated to students' project presentations. These should be done as much as possible in tandem (2 or more students together presenting aspects of a topic) using a brief PowerPoint, sent to instructor beforehand (see deadlines below).

viii. **Final Course Grades** are not on a curve, as is consistent with Hertie requirements and traditions.

Composition of Final Grade:

Assignment:	Deadline:	Submit by:	10%
(i) Class Participation	(i) Comment &/or ask a question &/or answer a question reasonably.	(i) At least 1X per every 2 classes (P/F: 0 or 1% given after ea. 2nd class. Max 6 pts.)	
(ii) Submit questions for visiting speakers (2X)	(ii) 7 PM on Monday before 9th and 11th classes	(ii) In body of an E-mail with subject and format as assigned. (P/F: 0% or 2% per assignment. Max 4 pts.)	

Assignment: Submit Abstract (Research topic proposal)	Deadline: Midnight, before 2nd Class	Submit by: E-mail, MSWord attachment (No PDFs. See above instructions)	15%
Assignment: Consult with professor on research progress	Deadline: Between 5th and at latest immediately after 8th class meeting	Submit by: Meet in person (as-a-group for joint projects) (0% if no meeting, 2% if very little progress; else 5%)	5%
Assignment: (i) Brief in-class rept. on your ongoing research (ii) Consult before on content/scope (ii) Presentation (PPT or MSWord outline if no PPT used)	Deadline: (i) Dates to be assigned. (Usually before the class closest to your topic) (ii) No later than at end of previous week's class (ii) Midnight before class	Submit by: (i) Brief presentation at start of class (see above) (Graded 2%-6%; 0% if no talk) (ii) Meet in person (brief) (P/F: 0% or 2%) (ii) E-mail as PPT or MSWord attachment. (See above instructions) (P/F: 0% or 2%)	10%
Assignment: Research paper	Deadline: Midnight, before 10th class	Submit by: E-mail (MSWord only, no PDFs. See above instructions)	40%
Assignment: Research project talk (i) The PPT document (ii) The talk itself	Deadline: (i) Midnight before talk, (ii) Give talk in 12th class (length will depend on class size and no. of groups)	Submit by: (i) E-mail, attach PPT (Not PDF or Google Docs) (P/F, 0% or 2%) (ii) When your turn is scheduled. (Graded 10-18%, see criteria above; 0% if none.)	20%

Late submission of assignments:
For each day the assignment is turned in late, the grade will be reduced by 10% (e.g. submission two days after the deadline would result in 20% grade deduction).

Attendance: Students are expected to be present and prepared for every class session. Active participation during lectures and seminar discussions is essential. If unavoidable circumstances arise which prevent attendance or preparation, the instructor should be advised by email with as much advance notice as possible. Please note that students cannot miss more than two sessions. For further information please consult the Examination Rules §9.

Academic Integrity: The Hertie School of Governance is committed to the standards of good academic and ethical conduct. Any violation of these standards shall be subject to disciplinary action. Plagiarism, deceitful actions as well as free-riding in group work are not tolerated. See Examination Rules §15.

4. General Readings

- Yergin, Daniel, "The Prize: The Epic Quest for Oil, Money & Power," The Free Press, New York 1991 Kindle Amazon. [***Required.*** Note: This is the original edition. The revised edition is also okay; but page numbers differ.]

- The Frackers: The Outrageous Inside Story of the New Billionaire Wildcatters, Gregory Zuckerman, 2013. Kindle Amazon [***Not required*** but helpful to understand the unique ethos and drivers of the US shale revolution as versus the EU reality.]

- All daily *Financial Times* and significant *New York Times* articles on current energy and related geopolitical topics **strongly recommended**.

- A list of several oil-and/or-gas industry and/or geopolitical publications (having generally daily or weekly frequencies) **will be recommended**. Instructor will send occasional (1-3x weekly) articles of interest on current topics/crises as examples of what one needs to follow to nurture expertise.

Session Overview

Session	Session Date	Session Title
1	**06.09.2018**	**The world's available energy resources, especially oil and gas, their geo-distribution, production, use and price trends**
2	**13.09.2018**	**The Persistence of Oil as the Universal Basis of Transport** **Why do the IEA & EIA project oil to remain the world's main source of energy for decades to come? Supply and demand aspects. Limitations of alternatives to-date.**
3	**20.09.2018**	**Theoretical Framework – Political Economy and Geopolitics of Oil** **The old neo-colonial system: Concessions, no market, IOCs & cartels as market-control institutions; US surplus oil: the Oil Board in WWII and the post-War European energy crisis/Marshal plan, as key to its MENA ascendancy. Transition to global, market-centered system: The 1st & 2nd energy crises (1973, 1979); IEA & strategic petroleum reserves ; US hegemonic role; OPEC nationalizations/revolution; higher price; spot and futures markets established; IOC vertical integration undermined; new oil found in global.**
4	**27.09.2018**	**Geopolitics of Oil (1937-1967):** **The Neo-Colonial Oil Era: German oil constraints in WWII, [Japan's in the Pacific], the post-War European energy crisis and Marshall Plan, Iran's nationalization of oil and the US-British coup, Suez Crisis, 1967 Arab-Israeli war.**
5	**04.10.2018**	**Geopolitics of Oil (1973-1989):** **Transition Period: the 1st energy crisis/Arab-OPEC Embargo (1973), the "OPEC Revolution", 2nd energy crisis/Iran Revolution (1979), and 3rd energy crisis/Saudi Net-Back (1985), US response to USSR-Afghanistan war; Iran-Iraq War (1980-89) and 1980's oil glut, the "lost-decade" in OPEC & Latin America.**

X	11.10.2018	No class. An additional class is scheduled below on 6 December.
6	18.10.2018	Geopolitics of Oil (1991-2006): Today's market-centered, collective oil-security system: continue 3rd Energy Crisis/Saudi Net-Back (1985): Iran-Iraq War (1980-1989); Saddam Hussein's Kuwait invasion & Gulf War (1991); 15 years of US/UN sanctions on Iraq; US v. EU (esp. France and Germany) tensions over Gulf War; NATO and Balkans; US-Iran "nuclear " crisis begins (1995-2006).
Mid-term Exam Week: 22-26 October 2018 – no class		
7	01.11.2018	Geopolitics of Oil (2001-present): 9/11 (2001), US-British Invasion of Iraq (2002), Iran "regime change" threats, conflicts over Iraq. Iran: Bush rejection of Grand Bargain rejection; nuclear program renewal (2005). Iraqi insurgency, US Iraq Study Group and purge of neo-cons; Sunni Awakening and Petraeus Surge (2005-08). Throughout: OPEC market strategy, its two factions Iran: from nuclear gambit to possibility; Bush v Obama tactics' JCPOA and roles of EU, Russia, Saudi Arabia, China. OPEC-Russia market Co-Operation. Trump anti-JCPOA policy.below
8	08.11.2018	Natural Gas A.: EU infrastructure & market integration, 3rd Energy Package, European Energy Union
9	15.11.2018	Natural Gas B: Visitor Expected (TBA) Last year: Head of Gazprom-Germania public relations. Russian Gas Policy Market and Geopolitical realities. Ukraine Crisis; Nord Stream 2 and Southern Stream pipelines; Policies of Germany v. USA on EU energy
10	22.11.2018	Geopolitics of Oil (2002-present) Fundamentals v. speculation in period of historically high price (2002-2007). Crisis and price rebound (2008 2014). Today's "lower for longer" prices: Saudi/OPEC price war v. US fracking. (2014-2016); "OPEC+" Saudi/OPEC-Russian Coop (2016-present). Geopolitics of Iran-Saudi regional contention. Obama v. Trump policies to Iran and Saudi.
11	29.11.2018	Visiting Speakers Panel (Names TBA). Last-year: Three energy diplomats: German, Former-EU and US responsible for EU/Russia energy relations, etc. Far Ranging Discussion of any Course Topic. Student questions.
12	06.12.2018	Presentations of student research projects
Final Exam Week: 10-14 December 2018 – no class		

5. Course Sessions and Readings

Session 1: 06.09.2018 **Basic Energy Literacy:** **The world's available energy resources, especially oil and gas, their geo-distribution, production, use and price trends**	
Learning Objective	Using official (EIA, IEA, IPCC) and industry (esp. BP) data and projections, understand: **(A)** The global natural-resource base for oil, gas, coal and nuclear as versus renewables; resource base v. proven reserves (P1, P2 & P3) and their certification and variance with technology and price; reserve usages to date; current production levels; expected lifetimes (r/p ratios); relative CO_2 burdens; primary sources v. secondary carriers; global and OECD v. non-OECD energy-system flow charts; expansion projections; petroleum-products 'inelasticity of demand v. the elasticity of electrical-generation sources; future scenarios for fossil fuels, nuclear and renewables. **(B)** "Energy transitions": Historical rise and fall of primary-energy sources; their drivers (esp. industrial revolutions) and long timescales (e.g., wood-to-coal, coal-to-petroleum, coal-to-natural gas/nuclear, etc.). Present trajectories of renewables. **(C)** Focus on oil and gas: conventional v. non-conventional, geo-distributions of oil and gas resources, history and projections of volumes; geo-location of production (supply) and consumption (demand). Regarding supply: . Regarding Demand: the special role of China and Asia; problems of alternative-powered vehicles, e.g., ethanol, hydrogen, electricity. **(D)** Recommendations of analysts, think tanks and industry-publications to follow throughout the semester on oil and/or gas.
Required Readings	1) World Energy Outlook, WEO 2017, IEA (International Energy Agency) of the OECD, Paris, 14 Nov. 2017. *(Note: WEO 2018 release date is Nov. 2018)* Read: a. Executive Summary b. Online Summary (with charts) 2) International Energy Outlook 2017, EIA (Energy Information Agency) of the US DoE, 14Sep 2017 *(Note: IEO 2018 release date is Sep 2018)*. Read: a. Executive Summary 3) BP Energy Outlook – 2018 edition. Read: a. Executive Summary (pp. 4-7) and Overview (pp. 12-16) 4) J.M.K.C. Donev et al. (2015). Energy Education - McKelvey Box, [Online]. [Accessed: June 24, 2018]. Re.: distinction between energy resources and reserves, etc.
Optional Readings	Optional: a. Executive Summary, Oil 2018: Analysis and Forecasts to 2023, IEA, Mar 2018. b. Previous readings, research and lecture PPT references are online.

Session 2: 13.09.2018 **The Persistence of Oil as the Universal Basis of Transport** **Why do the IEA & EIA project oil to remain the world's main source of energy for decades to come? Supply and demand aspects. Limitations of alternatives to-date.**	
Learning Objective	Oil remains the universal basis of transport, fuelling ca. 94% globally, and the world's main source of energy. Why? Session 1 showed the abundance of oil (and gas)

	reserves. To understand the stubborn persistence of the "age of petroleum" we examine: **(A) Demand drivers** (i) The universal pattern of countries' vehicle fleets per capita increasing to saturation is used to project future fleet sizes of countries and, in turn, future global oil-demand if there is no alternatives for oil. (ii) To what extent can we expect alternatives to displace oil considering the failures to-date of alternative fuels (ethanol, bio-diesel, hydrogen), the technical and cost constraints remaining for electric vehicles and the difficulty in expanding mass transit? The result has been persistently missed projections of the end of The Age of Oil in transport. **(B) Supply drivers:** the fracking revolution (USA, Argentina) and deep-offshore advances (Brazil, Gulf of Mexico, West Africa) illustrate how, contrary to classical resource economics, innovation in technology, operations and finance have greatly increased productivity. In particular, how neo-Malthusian "Peak Oil" predictions ,esp. ca. 2003-05 failed to materialize, causing lasting errors in both environmental and oil-and-gas policies. Today's "peak demand" concerns.
Required Readings	Drivers of oil demand for transport 1. Vehicle Ownership and Income Growth, Worldwide: 1960-2030, Joyce Dargay, Dermot Gately and Martin Sommer, The Energy Journal, IAEE, vol. 0(No. 4), Jan 2007. Read: pp. 1-6 & 18-28, [17 pp] 2. Illustrated Brochure, White Paper on Transport, European Commission, 2011. Read. pp 6-20. [15 pp] 3. "The Slow Lane, Can anyone solve the problem of traffic?" John Seabrook, New Yorker, 2 Sept. 2002. [15 pp] Drivers of supply growth: High-tech exploration, fracking, deep offshore and efficiency in conventional fields. [Note: these are mostly 2-5 pp.] 4. The New Old Economy: Oil, Computers and the Reinvention of the Earth, The Atlantic Monthly (in three parts), Jonathan Rauch, January 2001.[11 pp.] 5. Power to the People: What Will Fuel the Future? By Gideon Rose and Jonathan Tepperman, Foreign Affairs, May/June 2014 6. Foreign Affairs Focus: Fred Krupp on Fracking and the Environment ("Don't just 'Drill Baby' - Drill carefully!). By Gideon Rose and Fred Krupp, May/June 2014. Supplementary info. : Article Summary and Author Biography 7. The Missing Shale Miracle: Why Cheap Energy Won't Spark a U.S. Manufacturing Renaissance. By Nikos Tsafos Foreign Affairs, March 23, 2014. 8. Welcome to the Revolution**:** Why Shale Is the Next Shale. By Edward L. Morse, Foreign Affairs, May/June 2014 9. 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.
Optional Readings	Additional materials for reference or research for this class are available at this link

Session 3: 20.09.2018

Theoretical Framework – Political Economy and Geopolitics of Oil

The old neo-colonial system: Concessions, no market, IOCs & cartels as market-control institutions; US surplus oil: the Oil Board in WWII and the post-War European energy crisis/Marshal plan, as key to

its MENA ascendancy. Transition to global, market-centered system: The 1st & 2nd energy crises (1973, 1979); IEA & strategic petroleum reserves ; US hegemonic role; OPEC nationalizations/revolution; higher price; spot and futures markets established; IOC vertical integration undermined; new oil found in global.	
Learning Objective	How WW II and four major post-War energy crises shaped today's late-20th and early 21st-century energy system? These crises ended the late-colonial, non-market and mercantile-like world oil system dominated by the "seven sisters" private international oil firms, and developed today's global, market-centered one . After the "OPEC revolution," a collective international oil security system slowly emerged, centered on the market plus US financial, economic and military power. It was established via the OECD/IEA framework, at first in contention and later collusion with OPEC. This system remains the basis for global transport, providing 94% of all transport fuel.
Required Readings	1. O'Donnell, Thomas, "Political-Economy of the Globalized Oil Order: How 'objective conditions' drove the OECD and OPEC from confrontation to collusion," 2006/2011 [48 pp.]
Additional Readings	Additional materials for reference or research for this class are available at this link.

Session 4: 27.09.2018 **Geopolitics of Oil (1937-1967):** **The Neo-Colonial Oil Era: German oil constraints in WWII, [Japan's in the Pacific], the post-War European energy crisis and Marshall Plan, Iran's nationalization of oil and the US-British coup, Suez Crisis, 1967 Arab-Israeli war.**	
Learning Objective	Understand the resource-market-geopolitical inter-relationships and constraints (Note: there was no international oil market at that time, the age of the "Seven Sisters") during WWII and through the 1950's. This includes Germany's wartime energy constraints and strategy, the post-War Marshall plan that brought oil and displaced coal and began European dependence on the Middle East; the initial years of the Cold War, including the failure of France and Britain to re-establish their former colonial roles in the Mideast – including the US oil embargo against them over the Suez Crisis – the US-British coup in Iran ending its oil nationalization and the ascendency of the US in the Mideast, principally via its control of the global surplus petroleum production as versus military presence
Required Readings	1. Yergin, Chapter 17: "Germany's Formula for War," pp. 328-50 [23 pp.] 2. Ch. 21: "The Postwar Petroleum Order." [8 pp.] Read sections: a. Marshall Plan funds and facilitates Europe's conversion to Mideast oil dependency, pp. 422-25. b. Tapline complete, 1950, pp. 426-27. (Oil critical to domestic comfort, national power, and strategic defense) c. U.S.-Saudi relationship "a unique new relationship," pp. 427-28. 3. Yergin, Chapter 23: "'Old Mossy' and the struggle for Iran," pp. 450-478.[29 pp.] (The nationalization of Iranian oil and US-British coup) 4. Yergin, Chapter 24: The Suez Crisis, pp. 479-498. [20 pp.] (1956)
Optional Readings	Additional materials for reference or research for this class are available at this link.

Session 5: 04.10.2018

Geopolitics of Oil (1973-1989): **Transition Period: the 1st energy crisis/Arab-OPEC Embargo (1973), the "OPEC Revolution", 2nd energy crisis/Iran Revolution (1979), and 3rd energy crisis/Saudi Net-Back (1985), US response to USSR-Afghanistan war; Iran-Iraq War (1980-89) and 1980's oil glut, the "lost-decade" in OPEC & Latin America.**	
Learning Objective	Understand the resource, market and related geopolitical imperatives that drove the 'transition years' between the old and new world petroleum systems. This was a period of intense N-S collision and competition, following especially the 1973 embargo and subsequent OPEC nationalization of oil. The second crisis was the 1979 Iran revolution (and subsequent Iran-Iraq war of 1980-89) and the Saudi Net-back crisis of 1985-86 which marked the final full establishment of the new globalized, market-centered oil order and re-formation of the OPEC-OECD North-South energy relationship.
Required Readings -	**ALTERED ASSIGNMENT:** **First Energy Crisis:** A. Everyone should read #1, #2, and #3 below. [total: 30 pp]] B. If your last-name initial is A-F, also read #4. [13+ pp.] § Introduction , §The Saudis v. the Shah, §Yemani, §America's Strategy **Second Energy Crisis** C. If your last-name initial is G-L, also read #6: [17] §Intro, §Disillusion and Opposition, §Doing the 40-40, ~~§Like Snow in Water, §Threats of Blood, §I Am Feeling Tired, §The Last man Out,~~ §Panic Begins, §Force Majeure, §Leapfrog and Scramble, ~~§Living Dangerously, §Petroleum and the President, §The Worst of Times,~~ §The Cat-and-Mouse Dialectic, §The World Crisis. D. If your last-name initial is H-Z, also read #7 read [15] §Intro, §Death to America, §The Bazaar, §The Second Battle of Qadisiyah: Iraq v. Iran, §The End of the Road 1. Yergin, Chapter 28: The Hinge Years: Countries versus Companies. a. Read pp. 585-87 only [2] (i.e., §The Hinge Years) 2. Yergin, Chapter 29: The Oil Weapon, a. Read pp. 602-609 only [8] (i.e., §Sadat's Surprise) 3. Yergin, Chapter 30: Bidding for Our Life. a. Read pp. 613-32. [20] (i.e., the entire chapter: §The Loss, §Panic at the Pump, §Beef Prices, §Equal Misery, §A New World of Prices, §Alliance Strained, §Sheathing the Oil Weapon) 4. Yergin, Chapter 31: OPEC's Imperium, a. Read pp. 633-46 only [13] (i.e. , § Intro , §The Saudis v. the Shah, §Yemani, §America's Strategy) b. SKIP: pp. 646-52 optional. [11] (i.e. , §Kuwait and Our Friends, §Venezuela: The Kitty Kat Died.) , §Saudi Arabia: The Concession surrendered) 5. Yergin, Chapter 32: The Adjustment a. SKIP: Read pp. 653-72 [5+] b. SKIP: but skimming 658-67) [19] 6. Yergin, Chapter 33: The Second Shock: The Great Panic, a. Read pp. 674-97 [23+] (i.e., §Intro, §Disillusion and Opposition, §Doing the

	40-40, §Like Snow in Water, §Threats of Blood, §I Am Feeling Tired, §The Last man Out, §Panic Begins, §Force Majeure, §Leapfrog and Scramble, §Living Dangerously, §Petroleum and the President, §The Worst of Times, §The Cat-and-Mouse Dialectic, §The World Crisis. 7. Yergin, Chapter 34: 699-714 [15](i.e., §Intro, §Death to America, §The Bazaar, §The Second Battle of Qadisiyah: Iraq v. Iran, §The End of the Road) 8. **SKIP** Yergin, Chapter 35: Just another Commodity? a. Read pp. 715-727 only [13] 9. **SKIP** Yergin, Chapter 36: The Good Sweating: How Long Can It Go? a. Read pp. 545-64 only [19]
Optional Readings	Additional materials for reference or research for this class are available at this link.

NOTE: NO CLASS 11.10.18 – This pushes the last (12th) session to 6.12.18 (see last class, below)

Session 6: 18.10.2018 **Geopolitics of Oil (1991-2006):** **Today's market-centered, collective oil-security system: continue 3rd Energy Crisis/Saudi Net-Back (1985): Iran-Iraq War (1980-1989); Saddam Hussein's Kuwait invasion & Gulf War (1991); 15 years of US/UN sanctions on Iraq; US v. EU (esp. France and Germany) tensions over Gulf War; NATO and Balkans; US-Iran "nuclear " crisis begins (1995-2006).**	
Learning Objective	With the end of the transition period from non-market (late-neo-colonial) to market-centered global oil system, the present-day collective international oil-security system was in place. OPEC and the IEA states finally accepted each other's roles, and business-like market-control collusion ensued. Geostrategy adapted accordingly to this (and to the end of the USSR), as seen in the character and aims of all involved in esp. the Iraq Wars, Iran 'nuclear' confrontations and sanctions on these states and Libya, with the US acting as the system's global protector/hegemon, esp. so in the Persian Gulf; in turn a pillar of its legitimacy among OECD/Mideast allies and its superpower status generally.
Required Readings	1. O'Donnell, Thomas, "Political-Economy of the Globalized Oil Order: How 'objective conditions' drove the OECD and OPEC from confrontation to collusion," 2006, Continue discussion from Saudi net-back crisis through "surge" in Iraq War: pp. 28-48. [21 pp] 2. Memarian, Mohammad Sadegh, "OPEC's Mission and Power," Middle East Economic Survey (MEES), vol. LIII, No 28, 12-Jul-2010. [9 pp.] (The author is Head of the Petroleum Market Analysis Department, OPEC and Energy Affairs, at the Iranian Ministry of Petroleum.)
Optional Readings	Additional materials for reference or research for this class are available at this link.

Mid-term Exam Week: 22-26 October 2018 – no class

Session 7: 01.11.2018 **Geopolitics of Oil (2001-present):** **9/11 (2001), US-British Invasion of Iraq (2002), Iran "regime change" threats, conflicts over Iraq. Iran: Bush rejection of Grand Bargain rejection; nuclear program renewal (2005). Iraqi insurgency, US Iraq Study Group and purge of neo-cons; Sunni Awakening and Petraeus Surge (2005-08).** **Throughout: OPEC market strategy, its two factions** **Iran: from nuclear gambit to possibility; Bush v Obama tactics' JCPOA and roles of EU, Russia, Saudi Arabia, China. OPEC-Russia market Co-Operation. Trump anti-JCPOA policy.**	
Learning Objective	Understand the combined resource, market and geopolitical imperatives today comprising the global oil system as providing explanation for the Iraq Wars, and Iran nuclear crisis. Time permitting, also how this global oil system has constrained Chinese energy policy as its petroleum demand has soared.
Required Readings	1. O'Donnell, T.W., "The Political Economy of Oil in the U.S.-Iran Crisis: U.S. globalized oil interests vs. Iranian regional interests," http://www-personal.umich.edu/~twod/writing/iran_oil_usc_01jul09-draft.pdf 2. O'Donnell, Thomas W., "A firm US-EU partnership on Iran came at great cost, and made a deal possible" IP Journal, DGAP, Berlin, August 14, 2014. https://globalbarrel.com/2014/08/14/my-ip-journal-latest-firm-us-eu-partnership-at-great-cost-finally-made-a-deal-possible/ 3. O'Donnell, T.W., "The P5+1–Iran Deal: Obama's Initial Challenge was to Rally EU-3 Allies to the Cause," American Institute of Contemporary German Affairs (AICGS), Washington, DC; April 10, 2015. http://www.aicgs.org/issue/the-p51-iran-deal/ 4. O'Donnell, Thomas W., "The EU-U.S. 'Oil Weapon': Putin's Overtures to OPEC, China, and Iran Reveal Desperation," American Institute for Contemporary German Studies (AICGS), Washington, DC; April 23, 2015. http://www.aicgs.org/issue/the-eu-u-s-oil-weapon/
Optional Readings	Additional materials for reference or research for this class are available at this link

Session 8: 08.11.201 **Natural Gas A.:** **EU infrastructure & market integration, 3rd Energy Package, European Energy Union**	
Learning Objective	
Required Readings	1. "Completing Europe – From the North-South Corridor to Energy, Transportation, and Telecommunications Union" led by former US National Security Advisor Gen. James L. Jones, Jr., USMC (Ret.) and the Chairman of the Board of Directors of CEEP Pawel Olechnowicz. http://www.acsummit.org/wp-content/jnkjjkkl..l-. ö.-äö-.s/Completing-Europe_web.pdf a. An "explainer" of the above report: David Koranyi and Ian Brzezinski, "Completing Europe: The North-South Corridor," Atlantic Council, 20 April 2015. http://www.atlanticcouncil.org/blogs/new-atlanticist/completing-europe-the-north-south-corridor 2. EU's first State of the Energy Union report: How it will deliver on climate and energy goals for 2030, Sonja van Renssen, Energy Post, November 19, 2015.

	http://www.energypost.eu/eus-first-state-energy-union-report-will-deliver-2030/
Optional Readings	Additional materials for reference or research for this class are available at this link

Session 9: 15.11.2018 **Natural Gas B: Visitor Expected (TBA)** **Last year: Head of Gazprom-Germania public relations. Russian Gas Policy** **Market and Geopolitical realities. Ukraine Crisis; Nord Stream 2 and Southern Stream pipelines; Policies of Germany v. USA on EU energy. Student questions for speaker.**	
Learning Objective	Introduction to the geopolitics of Russian gas and Ukraine Crisis; the role of several Russian-Europe pipeline projects; especially, in this regard, the differences in the policies of Germany as v. the USA towards EU energy security. Brussels plus several eastern and central European states as v. Germany, Austria, Netherlands in regards to the Nord Stream 2 pipeline.
Required Readings	1. https://www.oxfordenergy.org/wpcms/wp-content/uploads/2018/03/Gazprom-in-Europe-%E2%80%93-two-Anni-Mirabiles-but-can-it-continue-Insight-29.pdf **2.** O'Donnell, Thomas W., "Washington Viewpoints**:** *Assessing Berlin's Role in EU Energy Security,"* AICGS Report (American Council on Contemporary German Studies), Washington, DC, June 30, 2015 PDF with Table of Contents for navigation or at AICGS website [HTML]. **3.** Kirsten Westphal and Severin Fischer, "Energy and Statecraft: A German Perspective," Reducing Vulnerability: A Transatlantic Approach to Energy Security, AICGS Policy Report 60 (2015). http://www.aicgs.org/site/wp-content/uploads/2015/04/PR60-Reducing-Vulnerability.pdf **4.** O'Donnell, T.W., "Containing Gazprom: Vladimir Putin may have overplayed his hand on gas – but no thanks to Berlin and Paris," *Berlin Policy Journal* (DGAP), August 10, 2015. http://berlinpolicyjournal.com/containing-gazprom/ 5. O'Donnell, T.W., "Bypass Operation: A New Russian-Northern European Pipeline Project Raises Questions," *Berlin Policy Journal* (DGAP), October 20, 2015. http://berlinpolicyjournal.com/bypass-operation/
Optional Readings	Additional materials for reference or research for this class are available at this link.

Session 10: 22.11.2018

***Geopolitics* of Oil (2002-present)**

Fundamentals v. speculation in period of historically high price (2002-2007). Crisis and price rebound (2008 2014). Today's "lower for longer" prices: Saudi/OPEC price war v. US fracking. (2014-2016); "OPEC+" Saudi/OPEC-Russian Coop (2016-present).

Geopolitics of Iran-Saudi regional contention. Obama v. Trump policies to Iran and Saudi.Geopolitics of Oil (2002-present)

Fundamentals v. speculation in period of historically high price (2002-2007). Crisis and price rebound (2008 2014). Today's "lower for longer" prices: Saudi/OPEC price war v. US fracking. (2014-2016);

"OPEC+" Saudi/OPEC-Russian Coop (2016-present). Geopolitics of Iran-Saudi regional contention. Obama v. Trump policies to Iran and Saudi.	
Learning Objective	Continue exploring character of present-era's "one global barrel" market-centered oil system. How political economics and market exigencies now translate into geostrategy.
Required Readings	Note: Selections from the following articles will be assigned to groups of students. Others articles will be added (From #2 are by the instructor; others will be added) 1. New Economics of Oil, Spencer Dale, British Petroleum, Group chief economist, Society of Business Economists Annual Conference, London, 13 October 2015. 2. Trump's promise to "stay totally independent" of OPEC is populist hype [Quoted IBD News], NYC, Jan. 3, 2017. 3. An pil-price war´s surprise ending, Berlin Policy Journal, Nov. 30, 2016. 4. "Energy independence" won't free the USA from global oil market & geopolitics [Quoted CNN Money], Aug. 12, 2016. 5. Russia Is Beating China to Venezuela's oil fields, Americas Quarterly, (AS/COA), New York; Feb. 4, 2016 6. Venezuela: default risks grow [Quoted by Platts], Sep. 4, 2015. 7. The EU-US "oil weapon": Putin's overtures to OPEC, China & Iran reveal desperation, AICGS Observer, Washington, April 23, 2015 8. Oil price collaterals: Saudi strategy shakes Russia, Iran & Venezuela, but they're not targets IP Journal/Berlin Policy Journal, Feb. 4, 2015 9. Listening to Saudi oil minister Al Naimi at CISIS in Washington [on US shale, Saudi policy and prices]: Bad news for Venezuela & Iran?, The GlobalBarrel.com May 8, 2013.
Optional Readings	Additional materials for reference or research for this class are available at this link.

Session 11: 29.11.2018 Visiting Speakers Panel (Names TBA). Last-year: Three energy diplomats: German, Former-EU and US responsible for EU/Russia energy relations, etc. Far Ranging Discussion of any Course Topic. Student questions.	
Learning Objective	Synergistic of the entire class material. In particular, appreciation of the differing points of view/interests of the nations represented by the diplomats.
Required Readings	**1.** Visitor(s) might ask students to read short articles before their presentations. (Sent to students at least week ahead). **2.** A couple current news or industry-press articles might be sent the week before if there is a need to inform students about policies/history/issues as background on any of the panellists' country/business.
Optional Readings	**1.** Students should read press analysis/commentaries/reports on their own initiative to help formulate their questions

NOTE: This last class is one week later than normal, as we skipped a class on 11.10.18 …

Session 12: 06.12.2018 Presentations of student research projects	
Learning Objective	See description of presentations under Course Requirements above.

Required Readings	None.
Optional Readings	

Final Exam Week: 10-14 December 2018 – no class