DESCRIPTION & OBJECTIVES

This course examines issues at the intersection of national energy security/sustainability and international conflict/cooperation. Is oil or natural gas import dependence a foreign policy liability, boon for global energy transition, or cause for war? Is energy a domain ripe for gray zone or hybrid warfare? Or, do globalization and the interdependence of energy markets favor international cooperation and peace? More specifically, can supplier states such as Saudi Arabia and Russia use hydrocarbon exports as lasting energy weapons over the “West”? Or, will volatile oil prices, as well as the promise of U.S. natural gas exports and the global energy transition lock in a strategic pivot away from the Persian Gulf and reinvigorate America’s political leverage, especially amid growing local demand across the Middle East and East Asia? Will this give grist to future U.S. energy sanctions on Russia, Iran, Venezuela and other strategic rivals, or stoke instability across the Middle East and Eurasia? Are the U.S. and China doomed to compete for access to global energy supply? Will there be a nuclear energy renaissance, and if so, will it increase the likelihood of weapons proliferation and/or regional conflict? Similarly, do innovations that ease distribution of renewable energy, allow for the circular flow of hydrocarbons, promote local sustainability, and/or fuse energy with information systems reduce risks of resource wars, lower barriers to cross-border conflict, and augur well for global governance? Can energy innovation provide a competitive advantage for U.S. grand strategy?

Students are introduced to major theoretical and policy analytical lenses used to examine critical geopolitical and geoeconomic issues associated with national pursuits of energy security and sustainability. The above questions and others will be probed by dissecting the complex interaction between resource endowments, technologies/innovation, economics, politics, power, and strategy in the oil, natural gas, nuclear, and alternative energy sectors; and by analyzing the implications for broader themes and concepts of security, statecraft, and governance in international relations. Accordingly, the course is structured around historical and comparative analysis of core issues in each sector that cut across different states and regions related to resource scarcity, market dynamics, trade vulnerability, corporate behavior, policymaking, national welfare and threat perceptions, and strategic interaction.
Learning Outcomes

Students will demonstrate proficiency at critiquing alternative explanations for international energy competition/conflict/war and assessing systematically the respective policies, institutions, and technologies adopted to bolster energy security and sustainability by different actors across the international system. In studying energy systems across different sectors, they also will acquire knowledge about the relationship between science, technology, and international affairs, more broadly. In addition, students will enhance their professional development by learning to communicate effectively at applying critical analysis for generating concrete policy recommendations on international security issues at the nexus of energy resources, technologies/infrastructure, trading, governance, and sustainable social systems at the national, and global levels.

COURSE MODALITY & FORMAT

This semester the course will be offered in full residential mode, with lectures/discussions delivered in-class. Depending on local COVID risk assessment and in accordance with GT and CDC guidelines, we may alter individual lectures to include remote delivery. Students will be notified in advance of these temporary adjustments. Updated announcements will be posted in CANVAS throughout the semester together with course material. Students with accommodations should follow up with me at the beginning of the semester.

The dedicated course period will consist of lectures, discussion and in-class interactive activities. There will be occasional guest speakers (virtual and in-class) during these sessions. In-class activities will be augmented by weekly reading, short assignments, documentaries and other materials in between class sessions. As per GT guidelines, face masks will be strongly encouraged for everyone, all the time, and irrespective of testing and COVID vaccine status. Students also are urged to test regularly. For more information on GT COVID-related policies, decision tree, testing, and vaccine information throughout the semester, see especially: https://health.gatech.edu/coronavirus/faqs.

COURSE REQUIREMENTS & GRADING

Students are expected to complete the required weekly reading and other assignments before each class, and to contribute actively to all in-class discussions/activities. Most classes will begin with a lecture on the designated topic, and conclude with a structured discussion/activity of a major conceptual puzzle and attendant policy debate. On occasion, students may be asked to engage in limited chats and other informal discussion threads in between classes via CANVAS.

Students will take an in-class exam on October 4th. This will consist of short answer identifications of key terms and concepts drawn from the lectures, reading, and other material covered in Module 1.
Each student will be responsible for drafting one short (3-4 pages, double-spaced) critical review of official and/or expert commentary on the international security implications of the changing energy landscape or related climate developments related to a topic of her/his choosing covered in Modules 2 & 3. This can include presentations on campus (e.g. public talks, in-class guest lectures), government statements, expert blogs or other on-line commentary, articles in policy journals/outlets, etc. The review should consist at least of a brief summary of the main argument of the targeted commentary, and an analytical and empirical critique. Critical reviews can be turned in at the student’s discretion on or before November 8th.

Each student will participate in a dynamic course policy simulation that will take place during the November 15th and 29th class periods (Module 4). The specific scenario and format of the simulation will be discussed in class. As part of the preparation, each student will be required to write a short background paper (3-4 pages, double-spaced) and contribute to drafting a group policy position paper (7 pages, double-spaced). For the first background paper each student will summarize the policy issues at stake from the respective national or agency perspective. This should be augmented by identifying the specific issues of concern to the institutional or corporate actor played by the student on the national team. The second paper will be collectively written by respective national/transnational/corporate teams, laying out the initial policy positions and objectives for the designated scenario. Both papers will be due at the onset of the simulation on November 15th. Each student will participate actively in all group problem-solving and deliberative exercises during the two-day policy simulation.

Finally, students are required to write a policy memo (8-10 pages) on a topic at the intersection of energy and national security relevant to a theme covered during the course. Examples can include:

1. How should the United States respond to continuing Russian energy pressure on Central and Eastern European countries in the wake of the wart in Ukraine?
2. How should the United States prepare for and respond to a potential blockage of sea lanes in the Straits of Malacca?
3. What should the United States do about the challenges affecting the nuclear power industry and how can this advance nonproliferation goals?
4. What are the greatest challenges at the intersection of emerging energy technologies and national security and how can the United States meet them?
5. Another related topic of choice with approval from instructor.

The memo will be addressed to the U.S. National Security Advisor and will: (1) succinctly frame the issue for consideration, putting it into a broader context and offering clarity about why it is important that it be addressed promptly; (2) set forth a range of policy options (optimally between three and five) for addressing the issue and discuss the pros and cons of each option; and (3) make a recommendation for Presidential action among those options. The idea is not to do extensive additional research but to use the readings and class lectures/discussions as a foundation for this endeavor. A one-page summary of the topic
must be turned in no later than **November 8th**. The final paper must be submitted by **December 11th at 6 pm**. No late papers will be accepted.

*Grading*

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Class &amp; Online Participation</td>
<td>10%</td>
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<tr>
<td>In-class Mid-term</td>
<td>20%</td>
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<tr>
<td>Critical Review Essay</td>
<td>10%</td>
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<tr>
<td>Simulation</td>
<td>30%</td>
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<tr>
<td>Individual paper</td>
<td>5%</td>
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<tr>
<td>Group paper</td>
<td>10%</td>
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<tr>
<td>Participation</td>
<td>15%</td>
</tr>
<tr>
<td>Final Paper</td>
<td>30%</td>
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</tbody>
</table>

**READING**

(Available for Purchase at GT Barnes & Noble Bookstore)

Per Hogselius, *Energy and Geopolitics* (New York: Routledge, 2019);
Charles Ferguson, *Nuclear Energy: What Everyone Needs to Know* (New York: Oxford University Press, 2011); and

*Emma Ashford, *Oil the State and War* (Washington, DC: Georgetown University Press, 2022)

*Recommended

**USEFUL LINKS**

Baker Institute, Energy Forum Research, [http://www.rice.edu/energy/research/](http://www.rice.edu/energy/research/)
Council on Foreign Relations, (Energy and Environment; Geopolitics of Energy)
https://www.cfr.org/geopolitics-energy
Center for New American Security (Energy, Economics, Security),
https://www.cnas.org/research/energy-economics-and-security
ExxonMobil, Outlook for Energy,
Cambridge Energy Resource Associates,
http://www.cera.com/aspplus/cda/public1/home/home.aspx
Harvard University, Belfer Center, Energy Technology Innovation Policy
http://belfercenter.ksg.harvard.edu/project/10/energy_technology_innovation_policy.html
Harvard University, Belfer Center, The Geopolitics of Energy Project
http://belfercenter.ksg.harvard.edu/project/68/geopolitics_of_energy_project.html
Intergovernmental Panel on Climate Change, https://www.ipcc.ch/about/
Center for New American Security (Energy, Economics, & Security),
https://www.cnas.org/research/energy-economics-and-security
Center for Strategic and International Studies (Energy & Geopolitics),
https://www.csis.org/topics/energy-sustainability/energy-geopolitics
Oil Drum Blog: http://www.theoildrum.com/
Columbia University/SIPA Center on Global Energy Policy,
http://energypolicy.columbia.edu/
Stanford University, Precourt Center for Energy Research, http://pie.stanford.edu/
World Bank Energy:
LexisNexis accesses hundreds of energy sources: Platts, Oil and Gas Journal, Petroleum Economist, among many others.

DECORUM & INTEGRITY

Learning together requires that everyone must feel welcome and able to trust others in the class. A central aim of the course is to encourage students to think and be critical. Accordingly, all students are expected to exchange freely ideas while respecting the opinions of each other. Similarly, each student must recognize that academic dishonesty
(such as cheating on a test/quiz or plagiarism on a paper) completely undermines the mission of this course, is surprisingly easy to detect, and is taken very seriously by the Institute. Do not be tempted to take a short cut to complete an assignment— consult the GT honor code/Honor Advisory Council http://www.policylibrary.gatech.edu/student-affairs/academic-honor-code -- if there are any questions. Students must turn off cell phones, pagers, and other electronic devices that could be distracting during all synchronous activities.

COURSE SCHEDULE

MODULE 1: ENERGY FUNDAMENTALS & IR SECURITY


Reading:
Global Energy Institute, International Index of Energy Security Risk
(peruse)
IEA, “World Energy Outlook, 2022 Executive Summary”
EIA, International Energy Outlook 2021,” (pdf)
BP Energy Future vs. Exxon Outlook for Energy 2022 (peruse)
https://corporate.exxonmobil.com/what-we-do/energy-supply/outlook-for-energy

Aug. 30: Energy Basics (Oil, Natural Gas, and the Nuclear Fuel Cycle)

Reading:
“Energy 101: Introduction to Natural Gas,”

“Alternative Energy: Historical Time-Line” (peruse)

Hogselius, Chps. 1-2;
Ferguson, Chps. 1-5, 7, 8.

Recommended:

Sept. 6: Hydrocarbon Century & Geopolitics: From “King Coal” to the Rise of “Big Oil” & OPEC

Reading:
Price-Smith, Chp. 1/CANVAS;
Colgan, Chp. 4/CANVAS.
O’Sullivan, Chp. 1
Watch: “The Prize,” Parts 5&6/CANVAS Module 1

Recommended:
*Watch “The Prize” Parts 1, 2, 4 & 7 (YouTube)
*Colgan, Chp. 3/CANVAS.

Sept. 13: Energy Markets, Prices, Peaks, and Curses

Reading:
Hogselius, Chp. 4
Yergin, Chps. 2-4;
O’Sullivan, Chp. 2
Campbell-Lynch Debate, Oil & Gas Journal, 14 July 2003/CANVAS
EIA, “What Drives Crude Oil Prices: Overview,” (From spot prices-Demand OECD), https://www.eia.gov/finance/markets/crudeoil/

Recommended:
* Robert McNally, “Crude Volatility,” Chps. 9 & 10/CANVAS
* Jason Bordoff and Meghan L. O’Sullivan, “The Age of Insecurity,” Foreign Affairs (May/June 2023)/CANVAS.
* Ashford, Chp. 5/CANVAS.

Sept. 20: Energy & IR Security Nexus

Guest Speaker: U.S. State Department Official (TBD)

Reading:
Hogselius, Chp. 3 (peruse), 5-7.
O’Sullivan, Chps. 5-6.
Yergin, Chp. 8.
Jeff D. Colgan, “Fueling the Fire: Pathways from Oil to War,” International Security 38:2 (Fall 2013), pp. 147-189/CANVAS
Ashford. Chp. 6/CANVAS.
Recommended:
*Jeff Colgan, Chp. 5/CANVAS;
*Ashford, Chp. 7/CANVAS.
*Ferguson, Chp. 6.

**MODULE 2: U.S. ENERGY POLICY & STRATEGIC INTERACTION**

**Sept 27: ** Energy, Climate & U.S. National Security Policymaking

*Guest Speaker: Mr. Peter Harrel, former Senior Director for International Economics and Competitiveness on the White House National Security Council Staff and Amb. (ret.) Lawrence Silverman (TBD).*

*Reading:*
DOE History (peruse), https://www.energy.gov/lm/doe-history
Jason Bordoff and Meghan O’Sullivan, “The New Energy Order,” *Foreign Affairs* (July/August 2022)/CANVAS.
“President Donald J. Trump Has Unleashed American Producers and Restored our Energy Dominance,” (July 29, 2020)

Yergin, Chps. 4 & 7, and 42.


Sarah Ladislaw and Nikos Tsafos, Race to the Top (Washington, DC, CSIS, July 2020), Chp. 1

Recommended:
* Yergin, Chps. 26-36 (peruse)
* Special Report: Global Warming of 1.5 by the Intergovernmental Panel on Climate Change: https://www.ipcc.ch/sr15/download/
* O’Sullivan, Chps. 4 & 11
* “Joint Statement by President Biden and President von der Leyen,” 10 March 2023,

Oct. 4: Mid-term

Oct. 11: Russia & Eurasia: Energy Great Power & Great Game Redux

Guest Speaker: Ibrahim AlMuhanna, former Advisor to the Ministry of Energy of the Kingdom of Saudi Arabia

Reading:
Yergin, Chps. 9-16 (peruse).
O’Sullivan, Chps. 8-10.

Maria Snegovaya, “What Factors Contribute to the Aggressive Foreign Policy of Russian Leaders,” *Problems of Post-Communism* 67:1 (2020)/CANVAS

“Impact of Russia’s Invasion of Ukraine on the Markets: EU Response,” *Council of the European Union* (2023),


Recommended:

**Oct. 18:**  **China & the Rise of Asia**

*Watch: “The Power of Big Oil (Frontline 3-Part Series)*
https://www.pbs.org/wgbh/frontline/documentary/the-power-of-big-oil/

*Reading:
Yergin, Chps. 17-25.

Recommended:
*Chia-yi Lee, “China’s Energy Diplomacy: Does Chinese Foreign Policy Favor Oil-Producing Countries?” Foreign Policy Analysis 14:4 (October 2019)/CANVAS

**MODULE 3: CONTEMPORARY POLICY CHALLENGES**

**Oct. 25: The Age of Natural Gas: From Pipeline Politics to Energy Networks**

*Guest Speaker: Mr. John Cheek, Geoscience Manager (ret.), XTO Energy Inc.*

*Reading:*  
O’Sullivan, Chps. 3, Section 2; Conclusion  
Yergin, Chp. 6.  
Adam N. Stulberg, “Eurasia’s Pipeline Tangle,” Russia in Global Affairs (24 September 2011)  
http://eng.globalaffairs.ru/person/p_2445  

*Recommended:*  
*Pierre Noel, “Nord Stream II and Europe’s Strategic Autonomy,” Survival 61:6 (December 2019-January 2020)/CANVAS


Nov. 1: Contemporary Energy Technology & Energy Security Challenges

Guest Speaker: Professor Matthew Realf, School of Chemical and Biomolecular Engineering

Reading:
Yergin, Chps. 41, 43-36
“Sustainable Synthetic Carbon-Based Fuels for Transport,” The Royal Society (2019). CANVAS.

Recommended:
Nov. 8: Changing Nuclear Landscape: Implications for Energy & International Security

Reading:
Ferguson, Chps. 3-5;

Recommended:
*Nicholas Miller, Why Nuclear Energy Programs Rarely Lead to Proliferation,” International Security 42:2 (Fall 2017). CANVAS
*“Final Report,” Investigation Committee on the Accident at the Fukushima Nuclear Power Station, Executive Summary/CANVAS, peruse.
MODULE 4: IN-CLASS SIMULATION

Nov. 15: In-Class Simulation 1 (TBA)

Nov. 22: NO CLASS: THANKSGIVING HOLIDAY

Nov. 29: In-Class Simulation (Last Class)

Dec. 6: NO CLASS/READING DAY

Dec. 11: FINAL POLICY MEMOS DUE 6:00PM