

ENERGY & INTERNATIONAL SECURITY

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Office Hours: Mon. 4-6pm & by appointment & virtual

INTA 8803AS
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Weds. 6:30-9:15pm
Habersham 136

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 and climate change problems 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,” especially amid growing demand across East Asia and the global south? Or, will volatile oil prices, as well as the promise of LNG, U.S. natural gas exports, intensification of violence across the Middle East and the global energy transition lock in a strategic pivot away from the Persian Gulf and reinvigorate America’s political leverage? 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 and secure energy supply chains? What is the impact of Russia’s ongoing war on Ukraine for regional and global energy security? 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, elevate the prominence of electrification, allow for the circular flow of hydrocarbons, promote local sustainability, and/or fuse energy with digital/information systems reduce risks of resource wars, lower barriers to cross-border conflict, enhance resilience, and augur well for global governance? Or will such trends reveal new points of strategic vulnerability, as well as create new winners and losers that increase or otherwise alter incentives for international conflict? Can energy innovation provide a competitive advantage for U.S. grand strategy?

Students are introduced to major theoretical and policy analytical frameworks 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 encouraged for everyone, 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.

Each student will have to write a *one-page* (single-spaced) brief on a selection of a week's reading **four times** throughout the semester (*from Sept. 4th- Nov. 6th*) or on a reading or argument advanced by a guest speaker of her/his choosing. Each brief must summarize a single relevant debate, specify a single analytical critique, and identify a single practical significance of the analytical critique. Each brief is due the date that the specific reading will be assigned for the class.

Each student will be responsible for drafting one short (5-7 pages, double-spaced) critical review of scholarly/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. The review should consist at least of a brief summary of the main arguments at the crux of a debate in the targeted commentary, as well as a trenchant analytical and empirical critique. Critical reviews can be turned in at the student's discretion **on or before November 6th**.

In addition, each student will participate in a dynamic course policy simulation that will take place during the November 13th and 20th class periods (Module 4). The specific scenario and format of the simulation will be discussed in class. Each student is required to write several short preliminary concept papers and a group scenario. Those students who will participate in the role of **Control** will collectively identifying a topic, and will individually write two concept papers (3-5 pages each, double spaced). The **first** will specify and explain prevailing conditions that constrain options and behavior among contending actors, as well as assess alternative driving forces that motivate the behavior of contending actors. The **second** paper will identify critical uncertainties that can alter constraints, motivations, and/or behavior. Both papers are due no later than **October 23th**. All Control members will then collectively draft a **specific scenario** around the issue for distribution to the class on **November 6th**.

Alternatively, those graduate students who participate as country/entity team members 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 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 13th**. Each student will participate actively in all group problem-solving and deliberative exercises during the two-day policy simulation.

Finally, each student will write a policy memo (8-10 pages, double-spaced) on a contemporary case study or topic of her/his choosing. Each memo will be addressed to a client—a head of a government agency or international institution, or a policy strategist at a firm or NGO—and will briefly summarize the geopolitical significance of the event or issue, critique alternative theoretical/conceptual explanations for the event/issue, outline attendant policy options, and explain how to choose among them. The idea behind these

memos is not to do extensive additional research but to analyze critically contending hypotheses and to tease out logistically consistent policy choices. The final paper will be due on **December 9th at 6:00pm**. No late papers will be accepted.

Grading

Class Participation		10%
Briefs (5% each)		20%
Simulation		30%
Background Papers (5% each)		
Simulation/Script (10%)		
Participation (10%)		
Critical Review		15%
Final Policy Memo		25%

READING

(Available for Purchase at GT Barnes & Noble Bookstore)

Meghan O’Sullivan, *Windfall: How the New Energy Abundance Upends Global Politics and Strengthens America’s Power* (New York: Simon & Schuster, 2017);

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

Daniel Yergin, *The New Map: Energy, Climate, and the Clash of Nations* (New York: Penguin Press, 2020).

Jeff D. Colgan, *Partial Hegemony: Oil Politics and International Order* (New York: Oxford University Press, 2021).

*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/>

Atlantic Council (Eurasian Energy Futures Initiative),

<http://www.atlanticcouncil.org/programs/dinu-patriciu-eurasia-center/eurasian-energy-futures>

BP Energy Outlook, <https://www.bp.com/en/global/corporate/energy-economics/energy-outlook.html>

CIA “The World Fact Book”, <https://www.cia.gov/library/publications/the-world-factbook/index.html>

Council on Foreign Relations, (Energy and Environment; Geopolitics of Energy)
<http://www.cfr.org/publication/20511/energyenvironment.html?breadcrumb=%2Fissue%2F17%2Fenergyenvironment>
<https://www.cfr.org/geopolitics-energy>

Energy Information Agency – Country Analysis Briefs. <http://www.eia.doe.gov/cabs/>
Center for New American Security (Energy, Economics, Security),
<https://www.cnas.org/research/energy-economics-and-security>

ExxonMobil, Outlook for Energy,
<https://corporate.exxonmobil.com/Energy-and-environment/Looking-forward/Outlook-for-Energy>

Cambridge Energy Resource Associates,
<http://www.cera.com/asp/cda/public1/home/home.aspx>

Energy Policy Research Foundation, Inc., http://eprinc.org/?page_id=58

MIT Energy Initiative, <http://energy.mit.edu/>

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/>

International Energy Agency: <http://www.iea.org/>

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.theoil Drum.com/>

Columbia University/SIPA Center on Global Energy Policy,
<http://energypolicy.columbia.edu/>

Oxford Institute for Energy Studies, <http://www.oxfordenergy.org/research.shtml>

Nuclear Threat Initiative, <https://www.nti.org/>.

Stanford University, Precourt Center for Energy Research, <http://pie.stanford.edu/>

White House Blog: Energy and the Environment:
<http://www.whitehouse.gov/blog/issues/Energy-%2526-Environment>

World Bank Energy:
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY2/0,,menuPK:4114636~pagePK:149018~piPK:149093~theSitePK:4114200,00.html>

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

Aug. 21: Introduction: Energy Systems, National Security & Geopolitics

Reading:

Global Energy Institute, *International Index of Energy Security Risk*
(peruse)

https://www.globalenergyinstitute.org/sites/default/files/IESRI-Report_2020_4_20_20.pdf

IEA, “World Energy Outlook, 2023 Executive Summary”

<https://www.iea.org/reports/world-energy-outlook-2023>

EIA, “International Energy Outlook 2023,” (pdf)

<https://www.eia.gov/outlooks/ieo/narrative/index.php>

BP “Energy Outlook 2024” vs. “ExxonMobil Outlook for Energy to 2050”
(peruse)

<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/energy-outlook/bp-energy-outlook-2024.pdf>

<https://corporate.exxonmobil.com/-/media/global/files/global-outlook/2023/2023-global-outlook-executive-summary.pdf>

Aug. 28: Energy Basics (Oil, Natural Gas, and the Nuclear Fuel Cycle)

Reading:

EIA, “Energy Explained,” (“What is Energy” thru “Secondary Resources”),

<https://www.eia.gov/energyexplained/>

Michelle Melton, Annie Hudson, and Sarah Ladislav, “Energy 101: Introduction to Oil,”

https://csis-website-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/150910_oil.pdf

“Energy 101: Introduction to Natural Gas,”
https://csis-website-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/Natural_Gas_101.pdf
“Alternative Energy: Historical Time-Line” (peruse)
<https://alternativeenergy.procon.org/historical-timeline/>
Hogselius, Chps. 1-2;
Ferguson, Chps, 1-5, 7, 8.
The World Bank Group, “The Petroleum Sector Value Chain,”
(2009)/CANVAS

Sept. 4: Hydrocarbon Century & Geopolitics: From “King Coal” to the Rise of “Big Oil” & OPEC

Reading:
Price-Smith, Chp. 1/CANVAS;
James D. Hamilton, “Historical Oil Shocks,” unpublished draft (February 2011).
http://econweb.ucsd.edu/~jhamilton/oil_history.pdf
Colgan, Chp. 4/CANVAS.
Gregory Brew, “How Private Oil Companies Took Over U.S. Energy Security,” *Foreign Policy* (May 16, 2022)- CANVAS
O’Sullivan, Chp. 1
Watch: “The Prize,” Parts 5&6/CANVAS Module 1
Watch “The Prize” Parts 1, 2, 4 & 7 (YouTube)
Colgan, Chp. 3/CANVAS.
Roger Stern, “Oil Scarcity Ideology in US Foreign Policy, 1908-97,”
Security Studies 25:2 (2016), pp. 214-257/CANVAS.

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

Sept. 11: Energy, Climate & U.S. National Security Policymaking

Guest Speaker: Mr. John Tien, former U.S. Deputy Secretary of Homeland Security

Reading:
DOE History (peruse).
<https://www.energy.gov/lm/doe-history>
Department of State- Bureau of Energy Resources (About Us)
<https://www.state.gov/about-us-bureau-of-energy-resources/>

- DOE Office of Cybersecurity, Energy Security, and Emergency Response, “From the Director: Perspectives on National Security Memorandum-22,” April 30, 2024.
<https://www.energy.gov/ceser/articles/director-perspectives-national-security-memorandum-22>
- FACT SHEET: President Biden to Announce New Actions to Strengthen U.S. energy Security. Encourage Production, and Bring Down Costs,” (October 18, 2022).
<https://www.whitehouse.gov/briefing-room/statements-releases/2022/10/18/fact-sheet-president-biden-to-announce-new-actions-to-strengthen-u-s-energy-security-encourage-production-and-bring-down-costs/>
- “FACT SHEET: President Biden to Galvanize Global Action to Strengthen Energy-Security and Tackle the Climate Crisis Through the Major Economies Forum on Energy and Climate,” (June 17, 2022).
<https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/17/fact-sheet-president-biden-to-galvanize-global-action-to-strengthen-energy-security-and-tackle-the-climate-crisis-through-the-major-economies-forum-on-energy-and-climate/>
- Jason Bordoff and Meghan O’Sullivan, “Geopolitics-Not Just Summits— Will Shape the Transition to Clean Energy,” *Foreign Affairs* (January/18, 2024) /CANVAS.
- “Hearing Wrap Up: Biden Admin’s Whole-of-Government Attack on Energy Sacrifices American Jobs, Prices, Energy Security,” (April 24, 2024)
<https://oversight.house.gov/release/hearing-wrap-up-biden-admins-whole-of-government-attack-on-energy-sacrifices-american-jobs-prices-energy-security%EF%BF%BC/>
- Yergin, Chps. 4 & 7, and 42.
- “The National Laboratories: US Powerhouses of Science and Technology,” <https://nationallabs.org>
- Sara R (Rose) Rinfret, Denise L. Scheberle, and Michelle C. Pautz, *Public Policy: A Concise Introduction* (Washington, DC: Congressional Quarterly Press, 2018), Chp. 10/CANVAS.
- Sarah Ladislaw and Nikos Tsafos, *Race to the Top* (Washington, DC, CSIS, July 2020), Chp. 1
https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/200706_SRF_RacetotheTop_WEB_v2%20FINAL.pdf
- Yergin, Chps. 26-36 (peruse)
- Jonathan Elkind, “US Clean Energy Transition and Implications for Geopolitics,” in Manfred Hafner and Simone Tagliapietra, eds., *The Geopolitics of the Global Energy Transition* (Cham, Switzerland: Springer Open, 2020), pp. 47-74/CANVAS.

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.

Sept. 18: Energy & IR Security Nexus

Guest Speaker: Mr. Peter Harrell, former Senior Director for International Economics on the U.S. National Security Council and National Economic Council.

Reading:

Hogselius, Chp. 3 (peruse), 5-7.

O’Sullivan, Chps. 5-6.

Yergin, Chp. 8.

Morena Skalamera, “The Geopolitics of Energy After the Invasion of Ukraine,” *The Washington Quarterly* (Spring 2023)/CANVAS

Erica Downs and Edward Fishman, “Q&A: Potential Impacts of New US Sanctions on Iran’s Oil Exports to China,” *Center on Global Energy Policy* (Columbia University), May 28, 2024.

<https://www.energypolicy.columbia.edu/qa-potential-impacts-of-new-us-sanctions-on-irans-oil-exports-to-china/>

Jeff D. Colgan, “Fueling the Fire: Pathways from Oil to War,”

International Security 38:2 (Fall 2013), pp. 147-189/CANVAS

Peter Toft, Arash Duero, Arunas Bieliauskas, “Terrorist Targeting and Energy Security,” *Energy Policy* 38 (2010), pp. 4411-4421/CANVAS.

Jane Nakano, *The Geopolitics of Critical Minerals Supply Chains* (Washington, DC: CSIS March 2021),

https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/210311_Nakano_Critical_Minerals.pdf?DR03x5jIrwLnNjmPDD3SZjEkGEZFecgt

Ashford. Chp. 6/CANVAS.

Jeff Colgan, Chp. 5/CANVAS;

Kenneth A. Schultz, “Mapping Interstate Territorial Conflict: A New Data Set and Applications,” *Journal of Conflict Resolution* (2015)/CANVAS

Llewelyn Hughes and Austin Long, “Is There an Oil Weapon?: Security Implications of Changes in the Structure of the Oil Market,” *International Security* 39:3 (Winter 2014/15), pp. 152-189/CANVAS.

Ashford, Chp. 7/CANVAS.

ICSR Report, "Caliphate in Decline: An Estimate of Islamic State's Financial Fortunes," *ICSR Kings College* (2017), <http://icsr.info/wp-content/uploads/2017/02/ICSR-Report-Caliphate-in-Decline-An-Estimate-of-Islamic-States-Financial-Fortunes.pdf>. (peruse)

Georg Struver and Tim Wegenast, "The Hard Power of Natural Resources: Oil and the Outbreak of Militarized Interstate Disputes," *Foreign Policy Analysis* 14 (2018), pp. 86-106/CANVAS
Ferguson, Chp. 6.

Sept 25: 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.

Michael Ross, "Does Oil Hinder Democracy," *World Politics* 53 (April 2001), pp. 325-61)/CANVAS.

EIA, "What Drives Crude Oil Prices: Overview," (From spot prices-Demand OECD), <https://www.eia.gov/finance/markets/crudeoil/>

EIA, "What Drives Petroleum Product Prices: Overview," (From price balance), <https://www.eia.gov/finance/markets/products/>

Robert McNally, "Crude Volatility," Chps. 9 & 10/CANVAS

Andre Mansson, "A Resource Curse for Renewables?: Conflict and Cooperation in the Renewable Energy Sector," *Energy Research & Social Science* (2015) /CANVAS.

Benjamin K. Sovacool and Marilyn Brown, "Competing Dimensions on Energy Security: An International Perspective," GT/IAC Public Policy Working Paper #45 (13 January 2009)/CANVAS

Jason Bordoff and Meghan L. O'Sullivan, "The Age of Insecurity," *Foreign Affairs* (May/June 2023)/CANVAS.

Oluwasegun B. Adekoya, et. al., "Does Oil Connect Differently with Prominent Assets During War?" *Resources Policy* 77 (2022). CANVAS.

Ashford, Chp. 5/CANVAS.

Oct. 2: Graduate Scenario Planning (Chris McDermott)

MODULE 2: GREAT POWER ENERGY SECURITY & STRATEGIC INTERACTION

Oct. 9: Russia & Eurasia: Energy Great Power & Great Game Redux

Reading:

Yergin, Chps. 9-16 (peruse).

O'Sullivan, Chps. 8-10.

German Marshall Fund "Illicit Influence: The Energy Weapon," Report from the Alliance for Securing Democracy & C4ADS,

https://d21lho1jqyw8vm.cloudfront.net/wp-content/uploads/2019/04/Illicit-Influence-Pt-2_Preview-PDF.pdf

Ibrahim AlMuhanna, *Oil Leaders: An Insider's Account of Four Decades of Saudi Arabia and OPEC's Global Energy Policy* (New York: Columbia University Press, 2022), Chp. 10/CANVAS.

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

Samantha Gross and Constanze Stelzenmuller, "Europe's Messy Russian Gas Divorce," *Brookings Research* (June 18, 2024).

<https://www.brookings.edu/articles/europes-messy-russian-gas-divorce/>

Christina M. Stoelzel Chadwick and Andrew G. Long, "Foreign Policy Alignment and Russia's Energy Weapon," *Foreign Policy Analysis* (2023)/ CANVAS

Agha Bayramov, "Conflict, Cooperation, or Competition in the Caspian Sea Region: A Critical Review of the New Great Game Paradigm," *Caucasus Survey* 9:1 (2021), pp. 1-20/CANVAS.

Natalie Koch & Veli-Pekka Tynkkynen, "The Geopolitics of Renewables in Kazakhstan and Russia," *Geopolitics* 26:2 (2021), pp. 521-540/ CANVAS.

Oct. 16: China & the Rise of Asia

Reading:

Yergin, Chps. 17-25.

Janet Xuanli Liao, "China's Energy Diplomacy Towards Central Asia and the Implications on Its 'Belt and Road Initiative'," *The Pacific Review* (2020)/CANVAS

Jeffrey Ball, "Grow Green China Inc.: How China's Epic Push for Cleaner Energy Creates Economic Opportunity for the West," *Brookings Paper* 8, May 2019/CANVAS.

- Tom Stefanick, “Secure Power: Gigawatts, Geopolitics, and China’s Energy Internet,” *Brookings Institution* (April 2022)/CANVAS.
- Zoe Leung, “In the Name of Energy Security, China is Doubling Down on Both Renewables and Coal,” *The Diplomat* (29 June 2023), <https://thediplomat.com/2023/06/in-the-name-of-energy-security-china-is-doubling-down-on-both-renewables-and-coal/>
- Jonna Nyman, “Red Storm Ahead: Securitization of Energy in US-China Relations,” *Millenium* 43:1 (2014), pp. 43-65/CANVAS
- Alvin Camba, “Sinews of Politics: State Grid Corporation, Investment Coalitions, and Embeddedness in the Philippines,” *Energy Strategy Reviews* 35 (2021)/CANVAS
- Chia-yi Lee, “China’s Energy Diplomacy: Does Chinese Foreign Policy Favor Oil-Producing Countries?” *Foreign Policy Analysis* 14:4 (October 2019)/CANVAS
- Kai-Hua Wang, Chi-Wei Su, Muhammad Umar, “Geopolitical Risk and Crude Oil Security: A Chinese Perspective,” *Energy* 219 (2021)/CANVAS.

MODULE 3: CONTEMPORARY POLICY CHALLENGES

Oct. 23: The Age of Natural Gas: From Pipeline Politics to Energy Networks

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

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

International Crisis Group, “Rethinking Gas Diplomacy in the Eastern Mediterranean (26 April 2023), <https://icg-prod.s3.amazonaws.com/s3fs-public/2023-04/240-east-med-gas-diplomacy.pdf>

Jonathan Elkind and Tim Boersma, Talking Past Each Other: Transatlantic Perspectives on European Gas Security, *Columbia SIPA: Center on Global Energy Policy*, May 2018/CANVAS.

Paul S. Cissantell, “Liquefied Natural Gas: Redefining Nature, Restructuring Geopolitics, Returning to the Periphery?” *The American Journal of Economics and Sociology* 79:1 (January 2020)/CANVAS.

Mark Bowden, “The Most Consequential Act of Sabotage in Modern

Times,” *The Atlantic* (December 13, 2023)/CANVAS.
Adam N. Stulberg, “Natural Gas and the Russia-Ukraine Crisis: Strategic Restraint and the Emerging Europe-Eurasia Gas Network,” *Energy Research & Social Science* 24 (February 2017), pp. 71-85/CANVAS.

Oct. 30: Changing Nuclear Landscape: Implications for Energy & International Security

Mr. Gabriel Collins, Baker Potts Fellow in Energy and Environmental Regulatory Affairs at Rice University’s Baker Institute (Virtual)

Reading:

Ferguson, Chps. 3-5;

Laura S. H. Holgate and Sagatom Saha, “America Must Lead on Nuclear Energy to Maintain National Security,” *The Washington Quarterly* 41:2 (2018)/CANVAS

“The U.S. Nuclear Energy Enterprise: A Key National Security Enabler,” *A Special Report by the Energy Futures Initiative* (August 2017), <https://static1.squarespace.com/static/58ec123cb3db2bd94e057628/t/5992f7e0bf629ad8f9d575ec/1502803938248/EFI+Nuclear+Report+FINAL+08.2017.pdf>

Anna J. Davis, “The Role of Nuclear Energy in the Global Energy Transition,” *Oxford Institute for Energy Studies* (August 2022). CANVAS.

Gabriel Collins, “Ukraine’s Electricity Sector: Urgency and Resilience in a Time of War,” *Baker Institute Working Paper* (2024). <https://www.bakerinstitute.org/sites/default/files/2024-08/20240814-Ukraine%20Electricity%20Sector-WP.pdf>

Pierre Goldschmidt, “Multilateral Nuclear Fuel Supply Guarantees & Spent Fuel Management: What are the Priorities?” *Daedalus* (Winter 2010), pp. 7-19/CANVAS.

Jane Nakano, *The Changing Geopolitics of Nuclear Energy: A Look at the United States, Russia, and China* (Washington, DC, CSIS 2020), https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/200416_Nakano_NuclearEnergy_UPDATED%20FINAL.pdf?heOTjmYgA_5HxCUbVIZ2PGedzzQNg24v

Christoph Bluth, Matthew Kroenig, Rensslelear Lee, William C. Sailor, and Matthew Fuhrmann, “Civilian Nuclear Cooperation and the Proliferation of Nuclear Weapons,” *International Security* 35:1 (Summer 2010)/CANVAS.

Nicholas Miller, “Why Nuclear Energy Programs Rarely Lead to Proliferation,” *International Security* 42:2 (Fall 2017). CANVAS.

Adam N. Stulberg, “Internationalization of the Fuel Cycle and the Nuclear

Energy Renaissance: Confronting the Credible Commitment Problem,” in Adam N. Stulberg and Matthew Fuhrmann, eds., *The Nuclear Renaissance and International Security* (Stanford: Stanford University Press, 2013) /CANVAS.

Eliza Gheorghe, “Proliferation and the Logic of the Nuclear Market,” *International Security* 43:4 (Spring 2019)/CANVAS

Jessica Jewell, Marta Vetier, Daniel Garcia-Cabrera, “The International Technological Nuclear Cooperation Landscape: A New Dataset and Network Analysis,” *Energy Policy* 128 (May 2019)/CANVAS.

Nov. 6: Contemporary Energy Technology & Energy Security Challenges

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

Reading:

Yergin, Chps. 41, 43-36

IRENA, *Geopolitics of the Energy Transition* (2024)/CANVAS

Nicola de Blasio and Fridolin Pflugmann, “The Geopolitics of Renewable Hydrogen,” Belfer Center, Harvard University, May 2021

<https://www.belfercenter.org/publication/geopolitics-renewable-hydrogen>

David Victor and Kassia Yanosek, “The Next Energy Revolution: Promise and Peril of High Technology Innovation,” *Foreign Affairs*, July/August 2017/CANVAS.

Center for Naval Analyses, “Advanced Energy and National Security,” 2017 https://www.cna.org/CNA_files/PDF/IRM-2017-U-015512.pdf

Wolfram Lacher and Dennis Kumetat, “The Security of Energy Infrastructure and Supply in North Africa: Hydrocarbons and Renewable Energies in Comparative Perspective,” *Energy Policy* 39 (2011), pp. 4466-4478/CANVAS

Manfred Hafner and Michel Noussan, “Technologies for the Global Energy Transition,” in Manfred Hafner and Simone Taliapietra, eds., *The Geopolitics of the Global Energy Transition*/CANVAS.

MODULE 4: IN-CLASS SIMULATION

- Nov. 13: In-Class Simulation 1 (TBA)**
- Nov. 20: In-Class Simulation 2 (Last Class)**
- Nov. 27: NO CLASS THANKSGIVING HOLIDAY**
- Dec. 4: NO CLASS/READING DAY**
- Dec. 9: FINAL POLICY MEMOS DUE 6:00PM**