

THE FLETCHER SCHOOL OF LAW AND DIPLOMACY

DHP 264 Fall 2019 GEOPOLITICS OF ENERGY IN EURASIA

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COURSE OBJECTIVES

The purpose of this course is to provide students of national, trans-national and global affairs with a comprehensive view of the role oil and gas energy plays in the contemporary geopolitics of Eurasia. Since a general explanation for the complex events associated with the geopolitics of these fuels for any area of the world is very difficult, we need to limit the scope of our work. In Diplomacy 264 we will begin our examination of energy questions with the powerful need for Eurasian States' to fuel their industrial economies at the end of World War II.

We then will move forward through time to the current Eurasian situation. In this period from 1945 to 2018 we can easily identify two major global events marking a new era in Eurasian energy history. Most cited usually is the collapse of the Soviet Union in 1991. This temporarily removed one of Eurasia's major energy producers and created new supply and distribution problems for the Russian Union and its customers. The second very deep change in Eurasia in the last decade of the twentieth century was the staggering increase in the demand for oil and gas in the eastern regions of the continent. Part of the evidence for this event is the post war reconstruction of Japan's industry and an associated spread of modern economic development along eastern Asian coast lines. But by far the most important energy news of a forthcoming technological revolution was the decision by the political elites of China and India in the late 90's to discover, produce and distribute fossil fuel resources designed to industrialize the giant populations of China and India.

The historical description of the Eurasian energy decisions involves differing experiences with the arrival of new technologies in central and eastern Eurasia. But this does not weaken at all the importance of the sensational change in the central and eastern regions of Eurasia. Journalists often sensationalize the impending force of this happening by describing the socio-economic effect as the economic modernization of one third of humanity.

Given the scale of this massive energy change in Eurasia, it is necessary to make some general remarks about geographical frameworks for analysis of its geopolitics. There are very good reasons why the use of national boundaries will present grave difficulties in discussing political, social and technical problems linked to new energy activities. By the beginning of the twenty first century the oil and gas industry was, simply put, a global affair. Comprehending energy change in 2018 will require a view of energy issues as matter that transcends the boundaries of nation states. This said, the diplomatic struggles to defend national interests on land, sea and cyber spaces in Eurasia is entirely a matter of new construction; however, we shall still major efforts to protect specific defined boundaries of nation state interests. So, our view of many diplomatic problems will need to have a flexible space

Then there is a new matter of size. The accelerated commerce in the oil and gas industry during the last portion of the twentieth century is so large it breaks old down geographical divisions. For example, the demand for oil and gas to supply the markets in India and China is so great it has reduced the significance of separate spaces for Indian and Pacific maritime activities. Large quantities of fuel passing through the Malacca Straits forces major to cooperate on security matters. Now the previous division between the two space is part of single Indo/Pacific space.

We also need to understand that the sudden increase in the consumption of energy in the late twentieth century in Eurasia is a symbol of new power relations not only in Asia but also in political relations of the great states of Eurasia. This history also needs a global framework because the dominant power adjustments in this period are cover pivots around the world. These new events are related to the collapse of the Soviet Union, the formation of the European Union, the rise of China and India and entry of the US into the strategical dynamics of Eurasia politics from Japan, Korea, Taiwan into the Indian Ocean to the Suez Canal.

In the late twentieth century new oil and gas technologies increased the rate of discoveries in offshore regions around the entire rim of Eurasia. This now includes the ability to transport LNG cargoes from Artic ports to shores of Japan and Korea during the most ice-bound periods of the year. Off shore drilling increased on a global scale; rig efficiencies have improved and blow out preventions have been improved. Tanker size has increased and diversified its offtake. International communications dramatically improved the task of getting product to market on time. And the major innovative energy event at the end of the century was the US discovery of the technical method for recovering major quantities of oil and gas from shale formations. This revolution quickly put the United States among the top exporters of oil and gas and offered new opportunities for the expansion of LNG supplies to developing nations. What this brings to the development of Eurasian industry is another highly flexible supply of fuel for the rapid development of industrial facilities. So, we will add industrial innovation to the forces of accelerated change inside Eurasia that brings the product of LNG to Artic areas of the

Russian Federation.

There is certainly a tendency to celebrate technological change. In Eurasia, during the last quarter century there is reason to believe that accelerated technological change in the energy production is linked with a substantial number of human decisions not in the interest of the stability or human health of political and social units. A major example in Eurasia of

destabilizing forces associated with the disruptive arrival of foreign populations and the uncontrolled expansion of cities is the Iranian revolution of 1978. This event proved to be the symbol of a larger backlash to modernity in the Arab world.

There are two versions of its development that are still part of the new energy era. This is the general political instability that prevents the establishment of central governments capable of obtaining the support of most segments of society. In the territories of where there is substantial production of oil and gas such as Iraq, the new disruptive political event is a high degree of external involvement of outside nations ability to promote division for winning an advantage in future peaceful times. Since very large oil and gas deposits are at the bottom of these conflicts the idea of a successful outcome of these struggles can conflate local violence into confrontations between regional powers and their distant backers.

Our final task for this study of is to examine the existing threats to geopolitics of energy in Eurasia that are so destructive of the human order a universal diplomatic effort is needed to avoid massive destruction. There are two problems. How to promote denuclearization and therefore the cancel the military use of this technology and develop the use of nuclear energy for peaceful use. The second major problem is to reduce the negative impact on of global warming.

COURSE SUBJECT MATTER

Since the academic goals of the course are ambitious, it is a good idea to give students one some sense of what we will address during the twenty-five lectures or more that will take place in the fall semester 2018 for Diplomacy 264. What follows is a list of problems. This rack up of events is not cast in concrete. It is my guess that the impact of contemporary changes in foreign policies and continued support for innovation in the production of Eurasian energy will not make the course into a boring study of pipeline constructions.

1. The unequal distribution of oil and gas reserves in Eurasia has major global significance. Here the major players capable of large scale oil production for export are the US, Russia and Saudi Arabia; and if we conduct a global search for the nations with big exploitable surpluses of natural gas, they are the US, Russia and Qatar. It is not hard to conclude that this lopsided distribution of valuable raw materials Eurasia will be exploited for political reasons as is the case in current Middle Eastern region.
2. When the Soviet Union collapsed in 1991, this temporarily removed a major oil producer from the international market for oil and gas; and it created 15 new nations that had to deal with new borders and old oil pipeline connections. This brought on a major conflict in the Ukraine and encouraged the European Union to states to diversify their pipeline structure to provide a more secure delivery of oil, gas and refined products. This is still going on.
3. The large-scale production of oil and gas in middle Eurasia from the Persian/ Arabian Gulf during the late 1970's went along with the beginning of a Eurasian backlash against hyper modernization. The event which triggered this modern backlash was the Iranian Revolution of 1978; the impact of this event in the Middle East continues to produce a linkage between oil and gas production and violent anti-state actions by non-national and newly national populations of modernizing states. This history is also connected to the

external involvement of non-Eurasian powers interested, for a variety of reasons, in bringing an end to internal non-state violence in core energy producing regions. (see US Russian involvement in Greater Middle Eastern warfare). Probably China and India are now involved in “post war” diplomacy in this “strategic” region.

4. Post-Soviet energy politics in Eastern Europe, the Baltic and the Black Sea mark a major clash of interests between the Russian Federation and new post-Soviet States, NATO and the EU. These conflicts, given modern communication, increases the involvement of Eurasian states and societies in political and economic exchanges on a global scale. We will study this commercial and political development in terms of the expansion of Eurasian energy on a scale that expands oil and gas not only in the heartland of Eurasia but also into the Pacific Ocean toward the shores of the Western Hemisphere. Some sense of the importance of this event for the US is captured in Kurt M. Campbell’s book “The Pivot Toward Asia” and in Michael J. Green’s history of American Grand Strategy in Asia Pacific since 1783 “By More Than Providence, 2017”.
5. One of the consequences of this event, is the creation of a new global maritime frontier that links sources oil, and gas from the rest of the world to China, India, Japan and Korea. This represents a revolution in commercial transportation and it in turn this has expanded the set of global maritime choke points where it is possible for opponents of global development to mount major challenges for access to fossil fuels.
6. The last portion of Diplomacy 264 is devoted to current technological changes that are influencing the production and distribution of oil and gas on a grand scale. Among all recent advances in the extraction and marketing of oil and gas, the use of computer technologies to locate and extract oil and gas from complex formations underground and offshore is obvious (horizontal drilling); the revolution in tanker construction and transportation of oil and using new digital technologies to discover and process fossil fuels is another; and finally, we will look at Liquefied Natural Gas as another example of revolutionary change in the oil and gas industry.

The above list of topics is just a guide to some of the basic subject matter for the course. However, the dynamics of energy development in Eurasia, the speed of technical change and the power of unanticipated events will no doubt produce departures

from the subject matter laid out in this syllabus.

READING REQUIREMENTS

Below is a small list of books crucial for a basic understanding of this project. These texts are available in the Fletcher Library and can be purchased at the Tufts University Book Stores. Chapters from these books are listed under various topics in the syllabus. It is not difficult to obtain recent information on energy issues from Internet Sources. Where details of production and technological change are available in short readable form consult U.S. Energy Information Administration (EIA) Country Analysis Briefs for producing nations (for example, Algeria). All other articles and book chapters are on Canvas at canvas.tufts.edu.

COURSE EVALUATION

At mid-term we will have a three page take home paper on a policy topic related to the general interests of class in the energy geo-politics of Eurasia. At the end of the course there will a scenario structured final examination that will sum up an understanding of the major challenges to the stability of Eurasia's energy environment.

LECTURES

In view of the ambitious scope of this course, I will depend upon an interactive mixture of lectures, class discussions and media presentations to cover many complex issues. Students are encouraged to establish study groups early in the course and to draw up maps, short chronologies and a vocabulary of geographical, ethnic and industrial terms to keep the spaces and cast of characters straight for a period of accelerated institutional change in Eurasia.

1. FORMAT

The course will be lectures mixed with class room discussion of major shifts in the geopolitics of Eurasian energy development. Students are not allowed to be bored by a seemingly endless display of pipeline maps.

2. KEY READINGS FOR THE COURSE AND CAPSTONE PROJECTS

The major texts for this course will help students interested in completing field requirements or capstone projects on the issues raised in the course lectures. They are listed below. These books are on Reserve in Edward Ginn Library; articles and other sources of information are posted to our electronic blackboard. Texts on Eurasian history, politics and culture are rarely best sellers and I do not encourage students to purchase the detailed studies of specific issues unless there is a special interest in mind.

The best overall text on oil and gas industry is Daniel Yergin, *The Quest: Energy Security and the Remaking of the Modern World*, (New York, The Penguin Press, 2011) ISBN 978-1-594420-283-4 ; Parag Khanna, *Connectography: Mapping The Future of Global Civilization* (New York, Random House, 2016) provides an innovative global framework for the analysis of energy geopolitics; for Security Studies students and pipeline lovers, ISBN 9780812988550; Jan H.Kalicki and David L. Goldwyn, eds. *Energy and Security: Strategies for a World in Transition* (Washington DC: Johns Hopkins University Press, 2nd edition, 2013) ISBN 978-1-4214-1186-6 is inclusive; understanding the cultural backlash associated with the modern impact of the oil industry, see, Mark Juergensmeyer, *Terror in the Mind of God* (Berkeley, California, University of California Press, 2003) ISBN 978-0-520-24011-7; Michael Mann, *Power in the 21st Century: Conversations with John A. Hall* (Malden, MA, 2011) summaries the complex relations between the nation state and society in the modern era of global industrialization; Kelly Sims Gallagher, *The Globalization of Clean Energy Technology: Lessons from China* (Cambridge, Massachusetts, MIT Press, 2014) ISBN 978-0-262-02698-7 is crucial for understanding the relation between the rapid industrialization of China and the ability of the state to absorb and use modern technology; for American geopolitical interests in the Chinese and Indian experiences with accelerated modern technology see, Kurt M. Campbell, *The Pivot* (New York, Hachette Book Group, 2016) ISBN 978-1-4555-6895-6; Angela E.

Stent, **The Limits of Partnership** (Princeton, Princeton University Press, 2014) ISBN 978-0-691-15297-4 deals with the impact of the end of the Soviet Union on great power relations related to the security situation in energy rich Eurasia; for maritime issues connected to the explosive growth of Asian consumption of oil and gas, see, J. Mohan Malik, **Maritime Security in the Indo-Pacific: Perspectives from China, India and the United States** (London, Rowman & Littlefield, 2014) ISBN 978-1-4422-3532-8; and for the South China Sea struggle for power, see, Bill Hayton, **The South China Sea** (London, Yale University Press, 2014) ISBN 978-0-300-18683-3; for forthcoming technological revolutions in general see the McKinsey Global Institute's point of view in Richard Dobbs, James Manyika, and Jonathan Woetzel, **No Ordinary Disruption** (New York, Public Affairs Press, 2015) ISBN 978-1-61039-579-3.

If you have difficulty getting at the readings listed for each of the lectures, please see me. My office hours are Tuesday and Thursday from 10-12 in Cabot 603. Should these hours not work out for you, call my assistant Ms. Sheri Callender 617 627 2003 and make an appointment.

SLLYBUS FOR DIPLOMACY 264

PART 1

INTRODUCTION TO THE GEOPOLITICS OF ENERGY INSECURITY

1. **September 5.** Where is Eurasia, why is Southwest Asia such an important part of modern energy geopolitics and why is the current energy situation so unstable?

On the big connection between military affairs and energy demands, see, www.vaclavsmil.com/wp-content/uploads/dos/smil-artical-2004-war-and-energy.pdf; Yergin, The Quest, pp. 1-34; Khanna, Connectography, pp.1-34; Juergensmeyer, Terror in the Mind of God, pp. xi-15.

2. **September 10.** From Great Game to Globalization; the changing geography of energy security and the complex geopolitics of threats to the supply systems for Eurasia and the World, see Nikolas K. Gvosdev and Christopher Marsh, Russian Foreign Policy (Los Angeles, Sage Publications, 2014), pp. 27-65; Kaliki and Goldwyn, Energy and Security, pp. 69-87; and ec.europa.eu/priorities/energy-union/docs/energyunion-en.pdf. (A Framework strategy for a Resilient Energy Union with a Forward-looking Climate Change Policy); and for the importance of choke point security, see <https://www.eia.gov/todayinenergy/detail.php?id=18991>.

PART II

THE ARCTIC, BALTIC SEA AND EASTERN EUROPE: REGIONAL SECURITY PROBLEMS AFTER THE COLLAPSE OF THE SOVIET UNION 1991

3. **September 12.** The Collapse of the USSR in 1991 and New State Instabilities in Eurasia.

Peri Pamir addresses this problem in “Nationalism, Ethnicity and Democracy: Contemporary Manifestations”. This argument is available at WWW.gmu.edu/programs/icar/ijps/vol2-2/pamir.htm. For a recasting of the competition between Russia, Eastern European States and the United States see, Angel E. Stent, The Limits of Partnership (Princeton, New Jersey, Princeton University Press, 2014), pp. 1-48; and The Energy Research Institute of the Russian Academy Sciences, Global and Russian Energy Outlook up to 2040 available at www.erivas.ru/files/2014/forecast_2040_en.pdf, pp 88-94. Gvosdev and Marsh, Russian Foreign Policy, pp.276-279; for Exxon, Russian, US relations on oil production, see <http://www.cnbc.com/2016/12/13/exxon-mobil-could-tap-huge-artic-assets-if-us-russian-relations-thaw.html>.

4. **September 17.** Defrosting the top of the World: the struggle for the production and transportation of oil and gas from Atlantic to Pacific Oceans via the North Sea and the Arctic.

Scott Borgeson; www.crystolenergy.com/assessing/-future-north-sea-oil-gas/
<https://www.foreignaffairs.com/arctic-antarctic/2008-03-02/artic-meltdown>. And Kaliicki and Goldwyn, eds. Energy and Security, pp. 205-220: the chapter by Charles Emmerson, “The Arctic: Promise or Peril? To see evidence of the negative consequences of oil and gas production. see, WWW.greenpeace.org/international/en/campaigns/climate-change/artic-impacts/The-dangers-of-Arctic-oil/Black-ice--Russian-oil-spill-disaster/. The opening of the Arctic (a strategic Turning Point) is in <https://www.nytimes.com/2017/08/25/world/europe/russia-tanker-christophe-de-margerie.html>.

5. **September 19.** Russia and NATO: the unstable Geopolitics of Gas Pipelines in Eastern Europe

Andrew Wilson, Ukraine Crisis (New Haven, Yale University Press, 2014), pp. 1-37, 99-143; Keith C. Smith, Russian Energy Politics in the Baltics, Poland, and Ukraine (Washington DC, Center for Strategic and International Studies, 2004), pp iv-76; and for Latvia, Lithuania and Estonia, see Till Jasper file: `///c:/users/Dell Desktop/Downloads/Till%20Jaspwe%20Weyers%20(1).pdf`. For Finland see <http://www.newsweek.com/trump-dodges-question-russi-security-threat-656199>.

6. **September 24.** On Out-Flanking NATO: Russian Energy Counter Strokes: The North Stream, The Baltic Sea Solution (the Blue Stream) and The South Steam discussions.

Marshall I. Goldman, Petrostate: Putin, Power and the New Russia (London, Oxford University Press, 2008), pp. 93-209; and http://en.wikipedia.org/wiki/Nord_Stream. For the failure of the shale movement in Poland, see <https://www.theguardian.com/environment/2015/jan/12/polands-shale-gas-revolution-evaporates-in-face-of-environmental-protests>.

7. **September 26.** The new energy geopolitics of the Black Sea: From Blue Stream to South Stream to rusting pipes.

Shireen Hunter, *Strategic Development in Eurasia after 11 September* (New York, Routledge, 2004), pp. 55-75. http://en.Wikipedia.org/wiki/Blue_Stream. Why Russia Cancelled (?) South Stream is in http://en.Wikipedia.org/wiki/South_Stream.

8. **October 1.** Imperial boundaries revived: Russian Invasion of Crimea 2008.

WWW.USNEWS.Com/opinion/blogs/world-report/2015/04/17/Ukraine-crisis-is-a-geopolitical-game-changer-that-weakened-Russia. The counter argument to the game changer article is available in www.nato.int/docu/Review/2015/Russia/2015/Russia/sanctions-after-crimea-have-they-worked/EN/index.htm. A historical analysis of the strategic importance of the Crimean Peninsula by a Russian scholar is in <https://www.csis.org/analysis/geostrategic-importance-blacksea-region-brief-history>

PART III

THE GEOPOLITICS OF ENERGY INSECURITY IN THE HISTORICAL CORE OF EURASIA: “THE CASPIAN DERBY”.

9. **October 3.** Political instability in a crucial sub-region of Central Eurasia: the security importance of the “Strategic Ellipse”. Note there are various sizes for the Strategic Ellipse. I go for the largest: it places the entire Arctic in the northern portion of the Strategic Ellipse. This puts most of the Siberian oil and gas fields now in operation, the major oil and gas deposits on top of the oil and gas reserves of the “Greater Middle East”, the Red Sea and Persian Gulf and the coast of East Africa as far south as Madagascar. This geography also includes the following maritime choke points: the Suez Canal, the Bab al Mandab at the bottom of the Red Sea, the Mozambique Strait, the port of Basra in Iraq, and the Strait of Hormuz at the end of Arab/Persian Gulf.

For some examples of political insecurity in this, see, Yergin, *The Quest*, pp. 43-63; and for what happens to a small state when the Great Powers are unable to resolve threats to their energy interests read the material on the tragic role of the Chechen uprising in, Carnegieendowment.org/2004/10/28/Chechnya-what-can-be-done/bbm Jan H.Kalicki and David L. Goldwyn, *Energy and Security*, pp. 187-204; http://en.wikipedia.org/wiki/Baku%E2%8%93Tbilisi%E2%80%93Ceyhan_pipeline.

10. **October 8.** Oil America on the Warpath: Western International Oil Companies in the Caspian Sea; Tengiz, Kashagan and Baku Ceyhan pipeline.

Steven Levine, *The Oil and the Glory: Chevron in Fortune on the Caspian Sea* (New York, Random House, 2007), all. On Kazakhstan’s Global role see, www.ccurasiancouncilforeignaffaires.eu/wp-content/uploads/2014/02/ECFA-paper-no-1-energy-security-FINAL-pdf. Accessed on 8/18/2016

11. **October 10.** Georgia, Russia, Iran and the neo-imperial “colonization” of Georgia’s northern and eastern frontiers takes place. Is the Caspian Sea now a Russian lake?

Stent, Limits of Partnership, pp. 135-210; Herman Pirchner. Jr., Reviving Greater Russia? The Future of Russia's Borders with Belarus, Georgia, Kazakhstan, Moldova and Ukraine (New York, University Press of America, 2004), pp.1-64. Let us not forget Iran!
<https://www.washingtonreport.me/1996-november-december/oil-and-gas-in-the-caspian-sea-region.html>.

12. **October 15.** How the globalization of oil technology and modern financial networks destabilized the energy politics of Kazakhstan's oil and gas production after 1991. See Maximilian Curtis's article at <http://en.foreignaffairsreview.co.uk/2013/02/kazakhstan-geopolitics>. For Kazakhstan's difficulties with modern oil technology see Catherine Putz at <http://www.the.com/201604/will-kashagan-be-pumping-by-the-fall/> For Turkmenistan's geopolitics of gas and the question of whether the Caspian is a sea or a lake see Martha Brill Olcott "Turkmenistan: Real Energy Giant or Eternal Potential?" <http://www.carnegieendowment.org/files/FullTextOlcott.pdf>.

Part IV

Eurasian Backlash Against Modernity, Entanglement of Great Powers in "The Greater Middle Eastern War" and the Explosive Asian Demand for Energy (1979-2016)

13. **October 17.** We will consider the Iranian Revolution of 1978-79 a turning point in Eurasian security considerations dealing with energy. Warfare with in the Strategic Ellipse now involves global powers and powerful new technologies. The institutional impact of war and accelerated social and cultural changes creates a religious backlash to modernity; warfare destabilizes regional politics and threatens the production of oil and gas; and this violence is spreads throughout the Greater Middle East at time when China and India are launching major state directed industrial development projects that demand vast supplies of energy imports. We argue the sum of these changes constitutes a new "turning point" in the history of Eurasia's experience with modern forces.

For a discussion of the various usage of the term turning point see Niall Ferguson comments in www.nytimes.com/2012/11/30/opinion/global/niall-ferguson-turning-points.html. For the military involvement of great and small powers, see, Andrew J. Bacevich, America's War for the Greater Middle East, (New York, Random House, 2016), pp. 201-294. Khanna, Connectography, pp., xv-60 and Mark Juergensmeyer, Terror in the Mind of God (Berkeley, University of California Press, 2003), pp xi-15, 61-84 covers other institutional developments considered to be a major part of the Globalization process. .

14. **October 22.** For Iran's complicated response to Globalization and energy security see Suzanne Maloney, Iran's Political Economy Since the Revolution (New York, Cambridge University Press, 2015), pp. 368-427; for a discussion of how the Blowback effect of rapid Globalization produces sectarian divisions in the Gulf region, see Banafsheh Keynoush, Saudi Arabia and Iran, Friends or Foes? (New York, Palgrave Macmillan, 2016), pp. 175-238; and consult Hamad H. Albloshi, The Eternal Revolution: Hardliners and Conservatives in Iran (New York, IB TAURIS, 2016), pp. 135-141. Steven Simon's Russia and the Middle East: The View from Washington deals with how

Russia might exploit the political and economic instability in the Gulf Arena is at <http://carnegieendowment.org/2016/04/05/russia-and-middle-east-view-from-washington/iwnl>.

15. **October 24.** Two Oxford Institute papers deal with India and Chinese demands for fuel: Sen, A. and Sen, A. (2016). "India Oil Demand: On the Verge of "Take-Off"? Oxford Energy Paper, Oxford Institute for Energy Studies, March. Available at <http://www.oxfordenergy.org/2016/03/on-the-verge-of-take-off/>. And Meidan, Midhal. (2016). "The structure of China's oil industry. Oxford Energy Paper, Oxford Institute for Energy Studies, May. Available at <http://www.oxfordenergy.org/2016/05/past-trends-and-future-prospects/>. The Central Eurasian response to the eastern demand for gas is the construction and operation of the Central Asia-China gas pipeline. It was commissioned in 2009. See, http://wikipedia.org/wiki/Central_Asia%E2%80%93China_gas_pipeline.

PART V

THE GLOBALIZATION OF THE MODERN INDO/PACIFIC MARITIME FRONTIER AND ITS ROLE IN THE DEFINITION OF ENERGY SECURITY PROBLEMS

16. **October 29.** What is the character of the statecraft necessary for meeting the security concerns for a major shift in production and consuming of oil and gas from the Center of Eurasia to the East? Gvosdev and Marsh, Russian Foreign Policy, pp. 293-363; Conversation between Kurt Campbell and Brian Andrews on the "Pivot" to Asia" in <https://www.Chathamhouse.org/sites/fileschathamhouse/publi/Research/Americas/08133pp-pivottoasia.pdf>.
17. **October 31.** The Pivot toward Asia and on how the scale and scope of the new Eurasian security map for the supply and demand for oil and gas to Asia starts, see Richard Giragosian for energy security in East Asia at <http://www.iags.org/n0813042.htm>. Geoffrey Kemp, The East Moves West (Washington DC, The Brookings Institution Press, 2010), pp.3-102; for the Mediterranean expansion of the energy connectivity along Eurasia's shorelines see <http://www.gmfus.org/publications/gas-discoveries-eastern-mediterranean-implications-european-union>. <http://www.globalsecurity.org/military/world/egypt/suez-canal.htm> addresses the strategic importance of the Suez Canal.
18. **November 5.** The Indian Ocean becomes the Geographic Center of the Global Oil Market and the emergence of large scale piracy marks its arrival. John Garofano and Andrea J. Dew, eds., Deep Currents and Rising Tides, The Indian Ocean and International Security (Washington, D.C., Georgetown University Press, 2013), pp. 1-48; for security issues concerning the protection of sea lines of communication for tankers moving oil to the eastern Pacific coast of China see Bonnie S. Glaser at cf.org/asia-and-pacific/armed-clash-south-china-sea/p27883
19. **November 7.** For Northeast Asia security considerations from see the Australian Strategic Policy discussion at <https://www.aspi.org.au/-data/assets/pdf-file/0012/15321/131022-NE-Asia-Defense-and-Security-Forum-Report.pdf>

20. **November 12.** As global supply of oil and gas dramatically increases through, around or over choke points some scholars argue that the need to protect connected networks that supply energy will surpass the importance of defending the sovereign territorial interests of national allies. See Parag Khanna, Connectography, pp. 137-323.

MODERN ENERGY SECURITY FOR EURASIA IN AN ERA OF

PART VI

ACCELERATED TECHNOLOGICAL CHANGE

21. **November 14.** Security challenges in the first quarter of the twenty first century will be broader, more diverse, and significantly more difficult to predict. Therefor the scope and speed of policy making will also accelerate at rates not comparable with previous era. Finally, the frameworks for forming successful actions will be multiple: local, regional and global. Examples of how this new complexity will require new frameworks of analysis are those that grapple with the uneven distribution of oil and natural gas reserves, new environmental tensions such as global warming, powerful nuclear technologies, revolutionary expansion of the means to extract, move and manipulate energy and unexpected technological events.

For an introduction to global security problems associated with accelerated technological change see Yergin, The Quest, pp. 523-717.

22. **November 19.** The Gas Revolution. the global spread of fracking technology began to weaken the ability of Russia to control the price of gas in Eurasia. See <http://russia-insider.com/en/opinion/2014/12/02/07-43-21pm/russia-demonized-suspected-financing-anti-fracking-protests>. And the arrival of global Liquefied Natural Gas Commerce created new operational and business environments for energy importers and exporter in Eurasia? Kaliki and Goldwin, Energy and Security, pp. 88-106.
23. **November 21.** Given the size, scale and speed with which the producing and consuming states of Eurasia are transforming in a negative manner the physical environment in Eurasia and the World, the oil industry is now endangering social existence. See Luca Anceschi and Jonathan Symons, Energy Security in the Era of Climate Change (New York, Palgrave Macmillan, 2012), pp. 1-29; Kalicki and Goldwyn, Energy and Security, pp. 499-514, for what might be done to address this fundamental issue.
24. **November 26.** To be optimistic about the diplomatic resolution of the energy and security issues will require a new management on a global level of power in human affairs. See Michael Mann, Power in the 21st Century: Conversations with John A. Hall (Malden, MA, 2011), pp.1-176; meanwhile the spread of radical modern energy technology that now links the Great Powers: Kelley Sims Gallagher, The Globalization of Clean Energy Technology: Lessons from China (Cambridge, Mass., MIT Press, 2014); and for revolutionary management techniques, see and Richard Dobbs, James Manyika, and Jonathan Woetzel, No Ordinary Disruption (New York, Public Affairs, 2015), pp. 181-207.

25. **December 3.** Greater Middle Eastern War Goes Global. Andrew J. Bacevich's history of America's war for the "Greater Middle East" is taking place in the heartland of Eurasia's great period of hyper globalization. The energy resources for this event were largely drawn from within the spaces we have examined in this course. But by 2017 the supply of fuels for the modernization of Eurasia is global and the violent consequences of the forces associated with hyper-globalization are also global. If the result of recent elections is suggestive of the difficulties brought on by "deglobalisation", it is a good idea to understand the forces that are at work now. The hope is to avoid an even more destructive period of change than in the past. See, the optimistic report of Barclays Investment Bank on the risks of "deglobalisation": <https://www.investmentbank.barclays.com/our-insights/the-end-of-globalization-as-we-know-it.html?cid=ppc-sc08e00v11m08uspa00pv00&trid=43700022671715573>.