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*Material for the Proceedings, including syllabi, meeting and professional announcements, scholarships and fellowships should be sent to the Proceedings editor, Daniel Gutierrez at [dgutierrez@ipsonet.org](mailto:dgutierrez@ipsonet.org)*

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It is no secret that the curriculum of many universities has been greatly impacted by the virus and world warming, as well as by increasing student preference for subjects directed more at contemporary concerns. Rather than a problem, that is a challenge for all of us to be aware and open to innovation more than ever. Time, an old Scottish lay goes, makes some dear things outdated.

The PSO has always been and is glad to publish syllabi as a service to the education community. We maintain a curriculum section on our website at <https://ipsonet.org/sin-categoria/policy-studies-curriculum-and-courses/> and urge a look at videos of our conferences at <https://www.youtube.com/user/PSO73/playlists>

We realize that every teacher has what is distinctly their own unique approach, and that their interests are reflected in their lesson plans. And we welcome the material of their teaching, be it lecture notes, websites, or reading lists or whatever else they would like to share.

This issue of Proceedings reflects the diversity within the policy community that is a basic strength; take it also as an invitation to submit. We are anxious to dialogue, discuss, and promote.

Paul Rich  
President, Policy Studies Organization  
[paulrich@gmail.com](mailto:paulrich@gmail.com)

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**American Foreign Policy**  
**Professor Edward Rhodes, George Mason University**

**Course Description:**

This class is an upper-level undergraduate introduction to the history of American foreign policy, the process of American foreign policymaking, and current issues in American foreign policy. Given the role of the United States on the world stage, American foreign policy has a significant impact on lives across the world, affecting regional stability as well as political, economic, and social development. At home, here in America, decisions on foreign policy significantly impact not only American prosperity and the safety of the American people but also the evolution of America's political institutions and political culture. Understanding the forces and influences shaping America's interaction with states and nations around the world thus is a critical element in understanding today's world and predicting tomorrow's.

**Learning Objectives:**

Upon completion of this course, students should have acquired an understanding of:

- The historical evolution of American foreign policy and the historical, intellectual, and cultural forces that have shaped and continue to shape American foreign policy;
- The institutions and processes of American foreign policymaking; and
- Foreign policy challenges facing the United States.

**Course Organization:**

This course is being taught in a distance learning format. Although we will have opportunities to meet with each other virtually via Zoom, we will *not meet face-to-face*. Students will need internet access to complete this course.

All course requirements need to be completed and all assignments must be submitted by the final day of the course, Thursday, December 3. That deadline is hard and fixed.

The course is self-paced. Students may proceed learning the course material and submitting the assignments at whatever pace they like.

**WARNING:** It will be very nearly impossible to complete the entire course in the last couple of weeks of the term. Last-minute completion of assignments typically results in poor results. Poor results will result in poor grades. Poor grades include C-, D, and F grades for the course. C- and D grades do not count for departmental credit. F grades do not count for university credit. The instructor will grade honestly. Last-minute submission of assignments is not a reason for leniency.

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The course is organized into 34 topical units. Each unit contains course materials and a required, graded assignment. It is strongly recommended that students complete the units in the order presented in the syllabus. This said, except for the very first assignment (the Plagiarism worksheet), students may complete these units in whatever sequence they prefer.

On a roughly weekly basis, the class will meet virtually during the course's assigned meeting time. The dates of our virtual meetings are indicated on the course syllabus. These virtual class meetings will *NOT* be lectures. They are intended to offer an opportunity for students to pose questions to the professor and to each other, and for class members to engage in discussion about specific course topics. While I hope that these class meetings run for the full, available time, if there are no questions and if discussion dries up, the meeting will simply end. For students to gain maximum benefit from these virtual meetings, they will need to have completed the course material relevant for that meeting's topic of discussion. Attendance and participation in these virtual class meetings is encouraged, though not required.

Students are encouraged to organize their own study groups. *If* any two or more students email with a request, I am happy to create a chat-room for those particular students on the course Blackboard site.

### **Course Materials:**

Class members are responsible for reading, watching, or listening to all assigned course materials. Study groups and the sharing of reading notes are encouraged. Used, shared, rented, or borrowed copies of assigned materials are fully acceptable.

The following books are required reading:

- Steven W. Hook, *U.S. Foreign Policy: The Paradox of World Power, 6<sup>th</sup> Edition* (Los Angeles: CQ Press/Sage, 2020).

- Steven W. Hook and John Spanier, *American Foreign Policy since World War II, 21<sup>st</sup> Edition* (Los Angeles: CQ Press/Sage, 2019).
- Walter A. McDougall, *Promised Land, Crusader State: The American Encounter with the World since 1776* (Boston: Mariner/Houghton Mifflin, 1997).
- Joseph S. Nye, Jr., *Do Morals Matter? Presidents and Foreign Policy from FDR to Trump* (New York: Oxford University Press, 2020).

The texts are available at the campus bookstore. Used or discounted copies of these books are also generally available through online retailers such as Amazon or AbeBooks. Prices may vary substantially. In particular, used copies of the McDougall and Meade books should be available for very modest prices.

Other course materials will be available online.

### Requirements and Grading:

Class members are required to:

- Complete all assigned readings and view/listen to all assigned media items; and
- Complete all required and graded assignments.

While class members are strongly encouraged to work together in study groups to master course materials, all assignments are individual work. Students are not to give or receive help on any graded assignment. Academic dishonesty – “cheating” and plagiarism – will not be tolerated or excused.

All assignments must be handed in via the course Blackboard site. Students should retain a copy of their assignment for their records.

Course grading is **NOT** on a curve. Class members are not competing with each other for marks.

## Course Topics:

### *Unit 1: Introduction:*

- Watch Rhodes, “Welcome to GOVT 344” (available in “Media” on course Blackboard site).
- Read and review syllabus (available in “Syllabus” on course Blackboard site).
- Read George Mason University English Department’s “Plagiarism” (available online at <https://writingcenter.gmu.edu/guides/plagiarism> ).
- Complete and hand in Assignment 1. THIS ASSIGNMENT MUST BE SUCCESSFULLY COMPLETED PRIOR TO SUBMITTING ANY OTHER ASSIGNMENT.

### *Unit 2: Theories of Foreign Policy:*

- Watch Rhodes, “The Sovereign State” (available in “Media” on course Blackboard site).
- Watch Rhodes, “The Westphalian System” (available in “Media” on course Blackboard site).
- Read Hook, Chapter 3.
- Complete and hand in Assignment 2.

### *Unit 3: The American Novus Ordo Seclorum:*

- Watch Rhodes, “*Novus Ordo Seclorum*” (available in “Media” on course Blackboard site).
- Read McDougall, Chapter 1.
- Read “The Declaration of Independence” (available online at: <https://www.archives.gov/founding-docs/declaration-transcript>).
- Read John Quincy Adams, “Fourth of July Speech” (available in “Course Materials” on course Blackboard site).
- Read Nye, Chapter 1.
- Complete and hand in Assignment 3.

### *Unit 4: Separating America from Europe (I): Avoiding Entanglement*

- Read Rhodes, “American Foreign Policy Tradition: Introduction” (available in “Course Materials” on course Blackboard site).
- Read McDougall, Chapter 2.
- Read “Washington’s Farewell Address” (available in “Course Materials” on course Blackboard site).



- Complete and hand in Assignment 4.

*Unit 5: Separating America from Europe (II): Solving the British Problem*

- Watch Rhodes, “The War of 1812” (available in “Media” on course Blackboard site).
- Watch “The War of 1812” (available online at <https://www.youtube.com/watch?v=qMXqg2PKJZU>).
- Complete and hand in Assignment 5.

*Unit 6: Separating America from Europe (III): The Monroe Doctrine:*

- Watch Rhodes, “The Two-World Solution” (available in “Media” on course Blackboard site).
- Read McDougall, Chapter 3.
- Watch “The Monroe Doctrine” (available online at <https://www.youtube.com/watch?v=Woh4gwIFpic>).
- Complete and hand in Assignment 6.

*Unit 7: The Imperative to Expand (I): The Mississippi Jugular*

- Watch Rhodes, “New Orleans: the Essential City” (available in “Media” on course Blackboard site).
- Read Rhodes, “Collection of Documents on the Louisiana Purchase” (available in “Course Materials” on course Blackboard site).
- Complete and hand in Assignment 7.

*Unit 8: The Imperative to Expand (II): Pre-emptive Expansion*

- Read McDougall, Chapter 4.
- Watch Rhodes, “The Polk Corollary to the Monroe Doctrine” (available in “Media” on course Blackboard site).
- Read Rhodes, “Collection of Documents on the Annexation of Texas” (available in “Course Materials” on course Blackboard site).
- Read Rhodes, “Collection of Documents on the Mexican-American War and the Polk Corollary” (available in “Course Materials” on course Blackboard site).
- Complete and hand in Assignment 8.

### *Unit 9: The Imperative of Unity*

- Watch Rhodes, “America’s Original Sin” (available in “Media” on course Blackboard site).
- Watch Rhodes, “A House Divided Cannot Stand” (available in “Media” on course Blackboard site).
- Read Rhodes, “Collection of Documents on Civil War Diplomacy and French Intervention in Mexico” (available in “Course Materials” on course Blackboard site).
- Complete and hand in Assignment 9.

### *Unit 10: The Triumph of Classical American Foreign Policy*

- Watch Rhodes, “The Completion of the Old Testament of American Foreign Policy” (available in “Media” on course Blackboard site).
- Richard Olney, Letter to Thomas Bayard (available in “Course Materials” on the course Blackboard site).
- Complete and hand in Assignment 10.

### *Unit 11: Industrialization and the Closing of the Frontier*

- Watch Rhodes, “The Emergence of Modern America” (available in “Media” on the course Blackboard site).
- Read Theodore Roosevelt, “The Strenuous Life” (available in “Course Materials” on the course Blackboard site).
- Complete and hand in Assignment 11.

### *Unit 12: Progressive Imperialism*

- Watch Rhodes, “The Spanish American War and Annexation of the Philippines” (available in “Media” on the course Blackboard site).
- Read Theodore Roosevelt, “The Roosevelt Corollary to the Monroe Doctrine” (available in “Course Materials” on the course Blackboard site).
- Read Albert Beveridge, “Speech on the Philippines” (available in “Course Materials” on the course Blackboard site).
- Read McDougall, Chapter 5.
- Read Rhodes, “The Search for Monsters to Destroy” (available in “Course Materials” on course Blackboard site).
- Complete and hand in Assignment 12.

*Unit 13: Making the World Safe for Democracy: America's First Crusade*

- Watch Rhodes, "A One-World Solution?" (available in "Media" on course Blackboard site).
- Read Woodrow Wilson, "World League for Peace Speech" (available online at <https://millercenter.org/the-presidency/presidential-speeches/january-22-1917-world-league-peace-speech>).
- Read Woodrow Wilson, "Fourteen Points Speech" (available online at: [https://avalon.law.yale.edu/20th\\_century/wilson14.asp](https://avalon.law.yale.edu/20th_century/wilson14.asp)).
- Read McDougall, Chapter 6.
- Read Rhodes, "The League Debate" (available in "Course Materials" on course Blackboard site).
- Complete and hand in Assignment 13.

*Unit 14: What Would a Moral U.S. Foreign Policy Look Like?*

- Read Nye, Chapter 2.
- Complete and hand in Assignment 14.

*Unit 15: Returning to Normalcy and Pursuing the "Pathway of Peace"*

- Watch Rhodes, "A Pathway of Peace" (available in "Media" on course Blackboard site).
- Read Rhodes, "Charles Evans Hughes Reconsidered, or: Liberal Isolationism in the New Millennium" (available in "Course Materials" on course Blackboard site).
- Read Warren Harding, "Inaugural Address" (available in "Course Materials" on course Blackboard site).
- Complete and hand in Assignment 15.

*Unit 16: The Great Depression and the Collapse of the International System*

- Read Rhodes, "Great Depression and World War II Timeline" (available in "Course Materials" on course Blackboard site).
- Watch "The Great Depression" (available online at <https://www.youtube.com/watch?v=TtttXC9tFPU>).
- Read Hook, Chapter 2.
- Complete and hand in Assignment 16.

## Unit 17: Defeating Fascism and Imposing Liberal Order: America's Second Crusade

- Watch "Extra Credit History World War II: The Resource War," parts I-IV (available online at [https://www.youtube.com/watch?v=NYv-GC8DgMk&list=PLhyKYa0YJ\\_5CpF0wJeXpZAJp6A-sQ\\_M3A](https://www.youtube.com/watch?v=NYv-GC8DgMk&list=PLhyKYa0YJ_5CpF0wJeXpZAJp6A-sQ_M3A)).
- Watch Rhodes, "The Logic of a United Nations" (available in "Media" on course Blackboard site).
- Read Franklin Delano Roosevelt, "Four Freedoms Speech" (available online at: <https://www.ourdocuments.gov/doc.php?flash=false&doc=70&page=transcript>).
- Read Franklin Delano Roosevelt and Winston Churchill, "Atlantic Charter" (available online at: <https://avalon.law.yale.edu/wwii/atlantic.asp>).
- Read "Universal Declaration on Human Rights" (available online at: <https://www.un.org/en/universal-declaration-human-rights/>).
- Read Eleanor Roosevelt, "Sorbonne Speech" (available online at: <https://www.americanrhetoric.com/speeches/eleanorroosevelt.htm>).
- Complete and hand in Assignment 17.

## *Unit 18: Containment*

- Watch Rhodes, "The Logic of Containment" (available in "Media on course Blackboard site).
- Read George F. Kennan, "Long Telegram" (Available online at: <https://nsarchive2.gwu.edu/coldwar/documents/episode-1/kennan.htm> )
- Read President Harry Truman's "Truman Doctrine" Speech. (Available online at [https://avalon.law.yale.edu/20th\\_century/trudoc.asp](https://avalon.law.yale.edu/20th_century/trudoc.asp)). Feel free to skim forward until the paragraph that begins with "I am fully aware of the broad implications...."
- Watch "Berlin Airlift" (Available online at <https://www.youtube.com/watch?v=nwjFSQCrShM>)
- Read McDougall, Chapter 7
- Read Hook and Spanier, Chapter 2.
- Complete and hand in Assignment 18.

## *Unit 19: Militarized Containment and Cold War*

- Watch Rhodes, "NSC-68 and Korea" (available in "Media" on course Blackboard site).
- Read Hook and Spanier, Chapter 3.
- Read summary of NSC-68 (available online at <https://history.state.gov/milestones/1945-1952/NSC68> ).

- Complete and hand in Assignment 19.

*Unit 20: Planning for “the Long Haul,” Taking a “New Look,” and Worrying about “the Military-Industrial Complex”*

- Watch Rhodes, “Extended Deterrence and Mutual Assured Destruction” (available in “Media” on course Blackboard site).
- Read Bernard Brodie, “The Absolute Weapon” (Available online at: <https://www.osti.gov/opennet/servlets/purl/16380564-wvLB09/16380564.pdf> ) Note that you are reading Eisenhower’s own copy of Brodie’s manuscript.
- Read Secretary of State John Foster Dulles, “Massive Relation Speech,” 1954, pp. 107-09. (Available online at: <https://archive.org/stream/departmentofstat301954unit#page/106/mode/2up> ).
- Read President Dwight D. Eisenhower, “Farewell Address.,” 1961. (Available online at <https://ourdocuments.gov/doc.php?doc=90&page=transcript> ).
- Read Nye, Chapter 3.
- Complete and hand in Assignment 20.

*Unit 21: The Need for “a New Frontier”*

- Watch Rhodes, “Kennedy’s Search for a New Frontier” (available in “Media” on course Blackboard site).
- Read or listen to President John F. Kennedy’s “Inaugural Address” (Available online at: <http://www.americanrhetoric.com/speeches/jfkinaugural.htm> ).
- Read McDougall, Chapter 8.
- Read Hook and Spanier, Chapter 4.
- Complete and hand in Assignment 21.

*Unit 22: Realpolitik Interlude: Kissinger and Détente*

- Watch Rhodes, “America Attempts to be a ‘Normal’ Great Power” (available in “Media on course Blackboard site).
- Read summaries of Secretary of State Henry Kissinger’s vision of an American foreign policy based on U.S. participation in a global balance of power.
  - <http://www.let.rug.nl/usa/essays/1901-/henry-kissinger-and-the-detente/kissingers-diplomacy.php>
  - <http://www.let.rug.nl/usa/essays/1901-/henry-kissinger-and-the-detente/kissinger-and-the-american-tradition-in-diplomacy.php>

- <http://www.let.rug.nl/usa/essays/1901-/henry-kissinger-and-the-detente/kissingers-approach-to-the-world.php>
- Read Hook and Spanier, Chapter 5.
- Read Nye, Chapter 4.
- Complete and hand in Assignment 22.

*Unit 23: Carter and the Search for a Moral Compass*

- Watch Rhodes, “Principles vs. Realpolitik” (available in “Media” on course Blackboard site).
- Read Hook and Spanier, Chapter 6.
- Read Nye, Chapter 5.
- Complete and hand in Assignment 23.

*Unit 24: Defeating the Evil Empire*

- Read Hook and Spanier, Chapters 6-9.
- Watch “The Berlin Wall (available online at [https://www.youtube.com/watch?v=KgdiYvcOi\\_w](https://www.youtube.com/watch?v=KgdiYvcOi_w)).
- Read Nye, Chapter 6.
- Complete and hand in Assignment 24.

*Unit 25: An End of History? Clash of Civilizations? Or Back to the Future?*

- Watch Rhodes, “Imagining the Future” (available in “Media” on course Blackboard site).
- Read Edward Rhodes, “Technology, Knowledge, and the Unraveling of the Institutions of International Relations” (Available in “Course Materials” on course Blackboard site).
- Read Hook and Spanier, Chapters 8-9.
- Read Hook, Chapter 1.
- Complete and hand in Assignment 25.

*Unit 26: 9/11, Tyrants, and Terrorists: America’s Third Crusade*

- Read President George W. Bush, “National Security Strategy, 2002” (available online at: <http://www.state.gov/documents/organization/63562.pdf> ). Read introduction and sections i-iii; lightly skim remainder.

- Read Edward Rhodes, "The Imperial Logic of Bush's Liberal Agenda," *Survival*, Spring 2003 (available in "Course Materials" on course Blackboard site).
- Read Hook and Spanier, Chapters 10-11.
- Read Nye, Chapter 7.
- Complete and hand in Assignment 26.

*Unit 27: Obamavision: Just War and Cooperation across Civilizations*

- Read Hook and Spanier, Chapters 12-13.
- Read or listen to President Barack Obama, "Nobel Prize Lecture." (Available online at: <https://www.nobelprize.org/prizes/peace/2009/obama/26183-nobel-lecture-2009/>)
- Read President Barack Obama, "UN Address," 2009. (Available online at: <https://obamawhitehouse.archives.gov/the-press-office/remarks-president-united-nations-general-assembly>)
- Complete and hand in Assignment 27.

*Unit 28: Trumpism*

- Watch Rhodes, "Trump and Transactional Foreign Policy" (available in "Media" on course Blackboard site).
- Read Jeffrey Goldberg, "A Senior White House Official Defines the Trump Doctrine: 'We're America, Bitch'"
- Read Hook and Spanier, Chapter 14.
- Read Nye, Chapter 8.
- Complete and hand in Assignment 28.

*Unit 29: What Next?*

- Watch Rhodes, "What Are We Afraid of?" (available in "Media" on course Blackboard site).
- Read Nye, Chapter 9.
- Complete and hand in Assignment 29.

*Unit 30: The President and Foreign Policy*

- Read Hook, Chapter 4.
- Complete and hand in Assignment 30.

*Unit 31: Co-Equal Congress and Foreign Policy*

- Read Hook, Chapter 5.
- Complete and hand in Assignment 31.

*Unit 32: The Bureaucratic and Governmental Politics of Foreign Policy*

- Read Hook, Chapter 6.
- Complete and hand in Assignment 32.

*Unit 33: Foreign Policy in a Democracy*

- Read Hook, Chapters 7, 8, and 9.
- Complete and hand in Assignment 33.

*Unit 34: American Foreign Policy Wrap-Up*

- Watch Rhodes, “Final Thoughts” (available in “Media” on course Blackboard site).
- Complete and hand in Assignment 34.

**Schedule of Weekly Discussions**

Thursday, August 27, 10:30-11:45: *Unit 1.*

Thursday, September 3, 10:30-11:45: *Units 2 and 3.*

Thursday, September 10, 10:30-11:45: *Units 4, 5, and 6.*

Thursday, September 17, 10:30-11:45: *Units 7, 8, and 9.*

Thursday, September 24, 10:30-11:45: *Units 10, 11, and 12.*

Thursday, October 1, 10:30-11:45: *Units 13, 14, and 15.*

Thursday, October 8, 10:30-11:45: *Units 16 and 17.*

Thursday, October 15, 10:30-11:45: *Units 18 and 19.*



Thursday, October 22, 10:30-11:45: *Units 20 and 21.*

Thursday, October 29, 10:30-11:45: *Units 22, 23, and 24.*

Thursday, November 5, 10:30-11:45: *Units 25, 26, and 27.*

Thursday, November 12, 10:30-11:45: *Units 28, 29, and 30.*

Thursday, November 19, 10:30-11:45: *Units 31, 32, and 33.*

Thursday, December 3, 10:30-11:45: *Unit 34.*

## Public Policy Fellowship

Henry Sokolski, Executive Director, The Nonproliferation Policy Education Center

### COURSE AIMS

This course focuses on questions central to assessing the merits of any nation's civil and military nuclear policies. Course topics include nuclear deterrence, nuclear energy and technology, the history of nuclear nonproliferation and arms control, energy economics, nuclear terrorism and intelligence, and future trends.

### ATTENDANCE POLICY AND SCHEDULE

The course will cover the following topics over an 11 week period. Participants are expected to attend six or more seminars, and at least three must be priority topics. Any class marked with an (\*) is considered a priority topic.

September 11 <sup>th</sup>	City Busting, the Nuclear Weapons Revolution, and Precision Guidance*
September 18 <sup>th</sup>	Nuclear Deterrence
September 25 <sup>th</sup>	Nuclear Energy Basics: Fission, Fusion and Bomb Designs, Part 1*
October 2 <sup>nd</sup>	Nuclear Energy Basics: Fission, Fusion and Bomb Designs, Part 2*
October 9 <sup>th</sup>	Nuclear Energy Basics: Reactors and Fuel Making*
October 16 <sup>th</sup>	International Nuclear Controls: The Acheson-Lilienthal Report, the Baruch Plan, and Eisenhower's Atoms for Peace*
October 23 <sup>rd</sup>	International Nuclear Controls: The Nuclear Nonproliferation Treaty (NPT) and the Current Three Pillars View*
October 30 <sup>th</sup>	Arms Control
November 6 <sup>th</sup>	Energy Economics: Nuclear and Non-Nuclear
November 13 <sup>th</sup>	Nuclear Terrorism and Nuclear Proliferation Intelligence
November 20 <sup>th</sup>	Thinking About the Next Arms Race*

## 1. CITY BUSTING, THE NUCLEAR WEAPONS REVOLUTION, AND PRECISION GUIDANCE

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### REQUIRED READINGS

- \* Henry Sokolski, City Busting, the Nuclear Weapons Revolution, and Precision Guidance Lecture Notes, *Nonproliferation Policy Education Center*. June 2020.
  - \* Henry Sokolski and Greg Jones, Two Modern Military Revolutions: Dramatic Increases in Explosive Yields and Aiming Accuracies, *Nonproliferation Policy Education Center*, October 4, 2013.
- James Digby, Precision Guided Weapons, *Adelphi Paper* no. 118 (London: International Institute for Strategic Studies, 1975).  
**Password protected PDF**
- Simon Denyer, One-third of Americans would support a preemptive nuclear strike on North Korea, researchers say, *Washington Post*. June 25, 2019. (Last Accessed August 26, 2019)

### RECOMMENDED READINGS

#### *The Importance of Reading History*

- Richard Fontaine and Vance Serchuck, "The Uses and Misuses of Historical Analogy for North Korea," *The Atlantic*, October 3, 2017.
- Richard E. Neustadt and Ernest May, *Thinking in Time: The Uses of History for Decisions Makers* (New York: The Free Press, 1986).
- Roger C. Schank, *Tell Me a Story: Narrative and Intelligence* (Branston, IL: Northwestern University Press, 1990).

#### *Targeting Innocents before World War II: Theories and Practice*

- A. J. Barker, *The Civilizing Mission: A History of the Italo-Ethiopian War of 1935-1936* (New York: Dial Press, 1968), 231-244. **Password protected PDF**
- Thomas M. Coffey, *Lion by the Tail: The Story of the Italian-Ethiopian War* (New York: Viking Press, 1974), 262-282. **Password protected PDF**
- Erik J. Dahl, "Net-Centric Before Its Time: The Jeune Ecole and Its Lessons for Today," *Naval War College Review* 58, no. 4 (Autumn 2005): 109-125.
- Giulio Douhet, *Command of the Air*, trans. Dino Ferrari (Washington, DC: Air Force History and Museum Programs, 1998).

William Mitchell, *Winged Defense: The Development and Possibilities of Modern Air Power—Economic and Military* (New York: G.P. Putnam's Sons, 1925).

Hugh Trenchard, "The War Object of an Air Force," in *The Art of War in World History: From Antiquity to the Nuclear Age*, ed. Gérard Chaliand (Berkeley: University of California Press, 1994), 905-910.

### ***Strategic Bombing: World War II***

"Battle of Britain," *Wikipedia*, last modified October 4, 2018.

"Battle of the Netherlands," *Wikipedia*, last modified October 8, 2018.

"Bombing of Cologne in World War II," *Wikipedia*, last modified October 15, 2018.

"Bombing of Dresden in World War II," *Wikipedia*, last modified October 12, 2018.

Tami Davis Biddle, "Dresden 1945: Reality, History, and Memory," *Journal of Military History* 72 (April 2008): 413-449. **Password protected PDF**

Sebastian Cox, ed. *The Strategic Air War against Germany, 1939-1945: The Official Report of the British Bombing Survey Unit* (London: Frank Cass Publishers, 1998).

First Half: **Password protected PDF**

Second Half: **Password protected PDF**

Daniel Gelernter, "Was Dropping the Atomic Bomb Necessary?" *The Weekly Standard*, August 27, 2015.

B. H. Liddell Hart, "The Crescendo of Bombing: The Strategic Air Offensive against Germany," in *History of the Second World War* (New York: G.P. Putnam's Sons, 1970), 589-612. **Password protected PDF**

Alexander McKee, *Dresden 1945: The Devil's Tinderbox* (New York: E.P. Dutton, 1984), 46-68. **Password protected PDF**

Richard Overy, *The Bombing War: Europe 1939-1945* (New York: Penguin Books, 2013).

Robert A. Pape, "Japan, 1944-1945" and "Germany, 1942—1945," in *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 87-136; 254-313. **Password protected PDF**

"Rotterdam Blitz," *Wikipedia*, last modified October 5, 2018.

Kurt Vonnegut, *Slaughterhouse-Five, or, The Children's Crusade: A Duty-Dance with Death* (New York: Delacorte, 1969).

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- U.S. Nuclear Regulatory Commission, "Backgrounder on Force-on-Force Security Inspections," July 12, 2016.
- Michael Perry, "Sydney nuclear reactor terror plot target-police," *The Washington Post*, November 14, 2005.
- Declan Butler, "Reactors, residents and risk," *Nature*, April 21, 2011.
- David Makovsky, "The Silent Strike," *The New Yorker*, September 17, 2012.
- "Jet Threat: Nuclear Power Plants are More Vulnerable to 9/11 Style Attacks than Officials Think," *The Sun*, January 18, 2018.
- Joan Diamond, Peter Hayes, and David Von Hippel, "Japan Scenarios: Vulnerability to Terrorism of Nuclear Spent Fuel Management," Nautilus Institute, August 11, 2017.
- Geert De Clercq, "France's nuclear spent-fuel pools major security risk: Greenpeace," *Reuters*, October 10, 2017.
- Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage, *Safety and Security of Commercial Spent Nuclear Fuel Storage: Public Report* (National Academies Press, 2006).
- Allisa J. Rubin and Milan Schreuer, "Belgium Fears Nuclear Plants Are Vulnerable," *The New York Times*, March 25, 2016.
- Matthew Bunn and Scott Sagan, "A Worst Practices Guide to Insider Threats: Lessons from Past Mistakes," American Academy of Arts and Sciences, 2014.

## **8. NUCLEAR PROLIFERATION INTELLIGENCE**

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### **REQUIRED READINGS**

- Henry Sokolski, *Improving the Role of Intelligence in Counterproliferation Policymaking: Report of the 'Speaking Truth to Nonproliferation Project*, March, 2019.
- Victor Gilinsky, *Sometimes We Don't Want to Know: Kissinger and Nixon Finesse Israel's Bomb* (paper prepared for NPEC Stanford Seminar, Stanford University, August 4, 2011).

## RECOMMENDED READINGS

### *Specific Cases*

- Avner Cohen, *The Worst Kept Secret: Israel's Bargain with the Bomb* (New York, NY: Columbia University Press, 2010).
- Douglas Frantz and Catherine Collins, *The Nuclear Jihadist: The True Story of the Man Who Sold the World's Most Dangerous Secrets...And How We Could Have Stopped Him* (New York: Twelve, 2007).
- Victor Gilinsky and Roger J. Mattson, "Revisiting the NUMEC Affair," *Bulletin of the Atomic Scientists* 66, no. 2 (March/April 2010): 61-75.
- Alexander Lanoszka, "Seoul in Isolation: Explaining South Korean Nuclear Behavior, 1968-1980," in *Protection States Trust?: Major Power Patronage, Nuclear Behavior, and Alliance Dynamics*, a Ph.D. dissertation completed at Princeton University, 2010.
- Murray Marder and Dan Oberdorfer, "How West, Soviets Acted to Defuse S. African A-Test," *The Washington Post*, August 28, 1977.
- Henry Sokolski, "Ten Regrets: America's Nonproliferation Efforts against Iran," in Joachim Krause, editor, *Iran's Nuclear Program* (London, UK: Routledge, 2012).
- William Tobey, "A Message from Tripoli: How Libya Gave Up its WMD," *The Bulletin of the Atomic Scientists*, December 3, 2014.
- William Tobey, "Intelligence and Policy Community Cooperation in the Libya WMD Disarmament Case," Paper prepared for the NPEC Speaking Truth to Intelligence project, July 2017.
- Leonard Weiss, "The 1979 South Atlantic Flash: The Case for an Israeli Nuclear Test" (working paper, Nonproliferation Policy Education Center, August 3, 2011).
- Roberta Wohlstetter, "The Buddha Smiles: U.S. Aide and the Indian Bomb (1978)," in *Nuclear Heuristics*, ed. Robert Zarate and Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2009), 339-356.
- Robert Zarate, "The Non-Use and Abuse of Nuclear Proliferation Intelligence in the Cases of North Korea and Iran" (NPEC working paper, April 8, 2013).

## **General Arguments**

- Wyn Q. Bowen, Robert Dover, and Michael S. Goodman, "Intelligence and Nuclear Proliferation: An Introduction to the Special Issue," *Intelligence and National Security* 29, no. 3, 315-322, June 4, 2014.
- Ashton B. Carter and L. Celeste Johnson, "Beyond the Counterproliferation Initiative to a 'Revolution in Counterproliferation Affairs,'" in, *Twenty-First Century Weapons Proliferation*, ed. Henry Sokolski and James B. Ludes (London: Frank Cass Publishers, 2001), 64-71. **Password Protected PDF**
- Catherine Collins and Douglas Frantz, *Fallout: The True Story of the CIA Secret War against Nuclear Trafficking* (New York: Simon and Shuster, 2011), ix-xiii. **Password Protected PDF**
- Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, Report to the President of the United States, March 31, 2005.
- Victor Gilinsky and Roger J. Mattson, "Did Israel steal bomb-grade uranium from the United States?" *Bulletin of the Atomic Scientists*, April 17, 2014.
- Seymour M. Hersh, "On the Nuclear Edge," *The New Yorker*, March 29, 1993.
- Robert Jervis, *Why Intelligence Fails: Lessons for the Iranian Revolution and the Iraq War* (Ithaca, NY: Cornell University Press, 2010).
- Jeffrey Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea* (New York: W.W. Norton & Company, 2007).
- Joshua Rovner, *Fixing the Facts: National Security and the Politics of Intelligence* (Ithaca, NY: Cornell University Press, 2011).
- Henry Sokolski, "Fighting Proliferation with Intelligence," in *Fighting Proliferation: New Concerns for the Nineties* ed. Henry Sokolski (Montgomery, AL: Air University Press, 1996), 277-298. **Password Protected PDF**
- U.S. Department of Defense, Office of Force Transformation, *The Implementation of Network-Centric Warfare* (Washington, DC: Office of the Secretary of Defense, January 5, 2005), 3-27.
- U.S. Department of State. Secretary of State. Follow-up to Nuclear Team Visit: Demarche to President Chiang, State 225046, *National Security Archive*, September 1978.
- U.S. Department of State. Secretary of State. The Taiwan Research Reactor, State 305274, *National Security Archive*, December 1977.

Henry Sokolski, "Informing Nonproliferation with Intelligence: Three Problems" (Video Lecture at the Hinckley Institute of Politics), January 2017.

## **9. THINKING ABOUT THE NEXT ARMS RACE**

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### **REQUIRED READINGS**

Henry D. Sokolski, *Underestimated: Our Not So Peaceful Nuclear Future*, Second Edition (Arlington, VA: Nonproliferation Policy Education Center, 2017).

### **RECOMMENDED READINGS**

#### ***The Future of Conflict***

Francis Fukuyama, "Huntington's Legacy," *The American Interest*, August 27, 2018.

Francis Fukuyama, "The End of History?" *The National Interest*, Summer 1989.

Samuel Huntington, "The Clash of Civilizations?" *Foreign Affairs*, Summer 1993.

#### ***North Africa and the Middle East***

Henri J. Barkey, "Turkey's Perspectives on Nuclear Weapons and Disarmament," in *Unblocking the Road to Zero: Turkey, Japan, and Brazil*, ed. Barry Blechman (Washington, DC: Stimson Center, May 2009), 67-81.

Richard L. Russell, "Off and Running: The Middle East Nuclear Arms Race," *Joint Forces Quarterly* 58, (3<sup>rd</sup> quarter 2010): 94-99.

Bruno Tertrais, "Alternative Proliferation Futures for North Africa," in *The Next Arms Race*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2012), 205-238.

#### ***Asia***

Commander Muhammad Azam Khan, "India's Cold Start Is Too Hot," *Proceedings of the U.S. Naval Institute* 137, no.3 (March 2011): 42-47.

Jacob Kipp, "Asian Drivers of Russian Nuclear Force Posture," in *The Next Arms Race*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2012), 45-81.

Michael Mazza and Dan Blumenthal, "China's Strategic Forces in the 21<sup>st</sup> Century: The People's Liberation Army's Changing Nuclear Doctrine and Force Structure," in *The Next Arms Race*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2012), 83-109.

Henry Sokolski, ed. *How Dark Might East Asia's Nuclear Future Be?* (Working Paper 1601, Nonproliferation Policy Education Center, September 2016).

Henry Sokolski, "China's Nuclear Weapons and Fissile Materials Holdings: Uncertainties and Concerns," (testimony before the U.S. Economic and Security Review Commission, George Mason University, Manassas, VA, March 26, 2012).

Frank Von Hippel, "Plutonium, Proliferation and Radioactive-Waste Politics," in *The Next Arms Race*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2012), 111-140.

Mansoor Ahmed, "Addressing South Asia's Fissile Material Conundrum," *Off Ramps Initiative*, The Stimson Center, February 20, 2018.

### **Latin America**

Hans Rühle, "Nuclear Proliferation in Latin America: Is Brazil Developing the Bomb?" *Spiegel Online International*, May 7, 2010.

Paul D. Taylor, "Why Does Brazil Need Nuclear Submarines?" *Proceedings of the U.S. Naval Institute* 135, no. 6 (June 2009).

### **Future Military Strategies in a Proliferated World**

Richard K. Betts, "The Lost Logic of Deterrence," *Foreign Affairs* 92, no. 2 (March/April 2013).

Therese Delpech, *Nuclear Deterrence in the 21st Century: Lessons from the Cold War for a New Era of Strategic Piracy* (monograph, RAND Corporation, Santa Monica, CA, 2012).

Thomas Donnelly, "Bad Options: Or How I Stopped Worrying and Learned to Live with Loose Nukes," in *Pakistan's Nuclear Future: Worries Beyond War*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2008), 347-368.

Mark Gunzinger and Bryan Clark, *Maintaining the U.S. Military's Advantage in Precision Strike*, Center for Strategic and Budgetary Assessments, 2015.

Jeff Kueter, "Missile Defense and Arms Control," in *The Next Arms Race*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2012), 425-475.

- Clark Murdock et al., "Project Atom: A Competitive Strategies Approach to Defining U.S. Nuclear Strategy and Posture for 2025-2050," CSIS Reports, Center for Strategic & International Studies, May 2015.
- R. Jeffrey Smith, "Obama Administration Embraces Major Nuclear Weapons Cuts," *Center for Public Integrity*, February 8, 2013.
- R. Jeffrey Smith, "Cautious Shift in Nuclear Arms," *Center for Public Integrity*, June 20, 2013.
- Henry D. Sokolski, "Missiles for Peace." *Armed Forces Journal* (August 2010): 18-22, 34-35.

### ***Possible Arms Control and Nonproliferation Efforts***

- David Andre, "Competitive Strategies against Proliferation?" in *Fighting Proliferation: New Concerns for the Nineties*, ed. Henry Sokolski (Maxwell Air Force Base, AL: Air University Press, 1996), 257-276.
- Brian Chow and Albert Wohlstetter, "Arms Control that Could Work." *Wall Street Journal*, July 17, 1985, in *Nuclear Heuristics: Selected Writings of Albert and Roberta Wohlstetter*, ed. Robert Zarate and Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2009), 501-505.
- Deep Cuts Commission, "Preparing for Deep Cuts: Options for Enhancing Euro-Atlantic and International Security," First Report of the Deep Cuts Commission (Hamburg: Institute for Peace Research and Security Policy, University of Hamburg, April 2014).
- Robert J. Einhorn, "Controlling Fissile Materials and Ending Nuclear Testing" (paper presented at the International Conference on Nuclear Disarmament, "Achieving the Vision of a World Free of Nuclear Weapons," Oslo, Norway, February 26-27, 2008).
- Harold A. Feiveson, Alexander Glaser, Zia Mian, and Frank N. von Hippel, *Unmaking the Bomb: A Fissile Material Approach to Nuclear Disarmament and Nonproliferation* (Cambridge, MA: MIT Press, 2014).
- Christopher A. Ford, "Five Plus Three: How to Have a Meaningful and Helpful Fissile Material Cutoff Treaty," *Arms Control Today* 39, no. 3 (March 2009).
- Thomas W. Graham, "Nuclear Weapons Stability or Anarchy in the 21<sup>st</sup> Century: China, India and Pakistan," in *The Next Arms Race*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2012), 261-308.

- Victor Gilinsky and Henry Sokolski, "Serious Rules for Nuclear Power without Proliferation," in *Moving Beyond Pretense: Nuclear Power and Nonproliferation*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2013), 457-499.
- Hans M. Kristensen, "Will Trump Be Another Republican Nuclear Weapons Disarmer?" *Federation of American Scientists*, Strategic Security (Blog), November 9, 2016.
- George P. Schultz, William J. Perry, Henry Kissinger, and Sam Nunn, "Towards a Nuclear-Free World," *Wall Street Journal*, January 15, 2008.
- Henry Sokolski, "Controlling the Further Spread of Nuclear Weapons" (working paper, Council on Foreign Relations, April 2010).
- White House Press Office, "Remarks by President Barack Obama," Hradcany Square, Prague, Czech Republic, April 5, 2009.
- Also see the video of President Obama's remarks and his Berlin Speech given June 19, 2013.
- Albert and Roberta Wohlstetter, "On Arms Control: What We Should Look for in an Arms Agreement," in *Nuclear Heuristics: Selected Writings of Albert and Roberta Wohlstetter*, ed. Robert Zarate and Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2009), 472-500.
- Albert Wohlstetter, "Nuclear Triggers and Safety Catches, the 'FSU' and the 'FSRs'" in *Nuclear Heuristics: Selected Writings of Albert and Roberta Wohlstetter*, ed. Robert Zarate and Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2009), 374-377.



***Public Policy Theory***  
*Brent S. Steel, Oregon State University*

***COURSE CATALOG DESCRIPTION***

Theoretical approaches to the study of the policy process, policy elements, policy tools, (e.g., regulation), and policy typologies. **PREREQS:** Departmental approval required.

***COURSE OVERVIEW***

Public policy can be studied in a variety of ways. In general, students tend to be most familiar with approaches that focus on the content of public policy: specific policy prescriptions, regulations, incentives, etc. A policy analysis or a policy evaluation course, for example, would likely spend a great deal of time on this content focused way of understanding public policy. This course takes a different approach.

The title of this course is *Public Policy Theory*. As such, this class will take a broader more general view of public policy than the content focus most students already understand or intuitively gravitate toward. This class focuses more so on understanding the *processes* of public policy as opposed to the specifics of any particular policy or context. In a way, any policy content we embrace is incidental or merely illustrative of the processes that are the focus of this class. As you can imagine, such a view of public policy is necessarily wide-angle, sweeping, and in need of both reliable assumptions and generalizations. The intent with this kind of approach is to better understand the how and why of policy. Why and how do some policies end up on the agenda and others do not? Why and how do some policies fail and others succeed? Who makes decisions? When does policy change or policy learning occur? These kinds of questions guide the content and course readings of this class. As we move through our exploration you will observe that different approaches have been applied to different questions to varying effect. Consequently, we have seen a proliferation of policy process approaches where no one approach works equally well for all questions or contexts. Our goal is to explore the major approaches.

***COMMUNICATION***

Please post all course-related questions in the General Discussion Forum so that the whole class may benefit from our conversation. Please email your instructor for matters of a personal nature. I will reply to course-related questions and email within 24-48 hours. I will strive to return your assignments and grades for course activities to you within five days of the due date.

***COURSE CREDITS***

This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

## LEARNING RESOURCES

Readings are divided into three types: 1) core texts refer to texts which will provide the foundational material for the course; 2) auxiliary texts refers to books that are used as *alternatives to* or *critiques of* our foundational material; and, 3) Web Readings and External Links, which will supplement our other texts and guide critical discussions.

### *The core texts:*

1. Christopher Weible and Paul A. Sabatier (eds). 2017. *Theories of the Policy Process*, 4th edition. Boulder: Westview Press.

This book provides an excellent overview of the mainstream approaches to studying the policy process including but not limited to institutional rational choice, social construction, narrative policy framework, punctuated equilibrium and the advocacy coalition framework.

2. Smith, Kevin B., and Christopher W. Larimer, 2013. *The Public Policy Theory Primer*, 2<sup>nd</sup> edition. Boulder: Westview Press, or 3<sup>rd</sup> edition, 2016. **The 2<sup>nd</sup> edition is free online at the OSU Valley Library.**

This book approaches major questions posed by policy scholars (and practitioners) and makes some attempt to provide a broad sense of what answers have been produced, and then evaluate those answers.

### *Auxiliary texts:*

3. Domhoff, William G. 2014. *Who Rules America?* Boston: McGraw-Hill (earlier editions also work).

Provides an alternative class based sociological macro-framework for analyzing the policy process and power relationships in the U.S. context (although much of this framework could be applied to other countries as well).

4. Stone, Deborah. 2012. *Policy Paradox: The Art of Political Decision Making*, 3<sup>rd</sup> Edition. New York: Norton.

Stone's book can and should be read as a postmodern critique of dominant economic approaches to the study of public policy. Read for basic concepts, not details. She includes one or two tables in most chapters as excellent summaries after you have read the chapter.

### *Web Readings and External Links:*

There are numerous required articles, chapters and external web links required. All readings are located under "Modules" located at the course Canvas site.

## **STUDENT LEARNING OUTCOMES**

*The course seeks to develop in students...*

1. A sense of alternative approaches to the examination of public policy and of their respective strengths and limits.
2. Awareness of the role of interests, ideas, knowledge, uncertainties, and other factors in relation to the development and consideration of public policy.
3. Awareness of factors that affect whether and how topics become “problems” and get on the agendas of government for consideration.
4. A sense of approaches toward and tools of policy formulation and policy enactment, including the importance of language and other political elements that affect public and elite perceptions and actions.
5. Recognition of the importance of policy application (implementation, and its sub-component, budgeting) and awareness of factors that affect the relative success of implementation of policy decisions.
6. Awareness of the complexity of policy evaluation in terms of mixes of values, interests, competing orientations, and other factors, and of the ubiquity and effect of the evaluation of policies.
7. Conceptual clarity in evaluating overall policy development, drawing on various approaches that attempt to account for those developments.
8. The ability to synthesize all these to a specific area of public policy development.
9. Enhanced ability to explore policy issues and to present the results of those explorations clearly, concisely, and in compelling form in written and oral communication.

*Additional skill set outcomes:*

- A. Learn how to write a policy brief.
- B. Develop presentation skills.
- C. Ability to facilitate group discussion.
- D. Ability to work with groups.
- E. Ability to take on leadership roles.

## **EVALUATION OF STUDENT PERFORMANCE**

### **Weekly Canvas Discussion**

Participation in **NINE** weekly Canvas discussion groups is required beginning Week 2. Discussion topics should relate to the week’s assigned readings and other relevant observations. Each student must submit **ONE** original posting by Wednesday (11:00 pm). Then each student is responsible for **TWO** additional replies (minimum) to another student’s posting by Sunday (11:00 pm).

## Policy Response Papers

Each MPP student is responsible for submitting **FOUR** Policy Response (PR) papers. There are ten opportunities to submit these assignments. Each précis/reaction paper should be a succinct two-page paper (single-spaced, 11 point, times new roman font, with normal borders) that distills the essential elements of the assigned article and related elements of the core readings. PR Papers are due by 11:59 pm Sunday of the content selected (e.g., IAD PR is due Second week of class). For the purposes of this class, these essential elements are defined as:

1. **Theory:** Summarize the policy process framework. You should identify the core components and subcomponents, as well as core processes and relationships (you should supplement this section with core readings for that week).
2. **Method:** Briefly summarize the methods used in the study.
3. **Findings:** Briefly summarize the findings in the study.
4. **Compare and/or Strengths and Weaknesses:** Briefly compare/contrast this study with policy process frameworks that we have already covered in the course (e.g., you might note where another framework might be more useful; why “this” framework is especially useful for this case). If you do not feel comparison is appropriate, please speak to the strengths and weaknesses of the study (both theoretical and methodological).
5. **Practical Utility:** Speculate about how useful this process framework and this type of study would be to a practitioner. (If you were working as a policy analyst, when would you use this? When would you avoid it? Why?)
6. **Brilliant Insights or Thoughts:** Category six is the only reason you should go over two pages. As to what you write here, well...hard to say: it should be brilliant though! (And no more than one additional page).
7. **Be sure to cite appropriately and include a reference page (this page will not be counted against your page limit).**

The PR paper assignments are intended to accomplish two goals. The first goal is to help students distill the intricate and complex policy process approaches we cover in class into manageable and memorable core concepts. I want each of you to be able to return to these papers and quickly remember what it is about this or that framework that was important. Second, each of the papers will be written on actual academic research. This is important (and we will learn in this class) because policy people rarely use academic research to make policy. My hope is that when you go out into the policy world, you will be better equipped to bridge the aloof ivory tower and the messy political world of actual public policy making (including analysis, evaluation, and implementation). I want to emphasize, however, that students in my past courses have found these to be very difficult papers to write because of the required brevity and precision. Please budget an appropriate amount of time (i.e., likely more than your initial inclination) to complete these assignments.

## Policy Theory Paper

The major project in the course is a policy theory paper in which you apply course materials and review extant scholarship and research to better understand a policy area or policy problem of your own choosing. This assignment usually works best if the topic is relevant to your own interests and/or degree track (e.g., ocean policy, forest policy, water policy, health policy, rural policy, etc.). The paper should be 15-20 pages (double-spaced, normal font, standard margins, numbered, etc.) and is worth a maximum of 300 points. Papers should use a consistent citation format, have proper grammar and spelling, and presents a proper introduction. If there are multiple spelling errors, bad grammar, or a failure to communicate the thrust of your paper in the introduction, I will not read the rest of the paper.

Your analysis should include the components below. In each case it is essential that you draw on and cite relevant course and other materials:

1. **Introduction:** This section introduces your chosen policy area or problem. In this section you want to briefly establish why your policy area is important, how your paper addresses the policy area or problem, and tell us where your paper is going and how it plans to get there.
2. **Literature Review of Your Policy Area/Problem:** In this section you want to have an extended discussion of what was introduced in the introduction about your policy area/problem (a rule of thumb here is that a sentence in the intro usually equals a paragraph in the body of the paper, but this is only a rule of thumb). In this section will overview your policy area by detailing what has happened (e.g., on the agenda, passed, being implemented; or put on agenda but failed to pass), the emergence of key issues/concerns/etc., and the current status of your policy area or problem. Most importantly, however, your literature review will tell us what we already know in terms of extant research (when it comes to sources academic presses and peer-reviewed journals are best. Focus on these where possible—but other sources can and should be consulted, such as government agency reports, trade books from trustworthy sources, etc.)
3. **Theories of the Policy Process and Your Policy Area/Problem:** In this section you will need to determine what the various theories, policy sub-fields, and policy process frameworks have to say about your policy area or problem (e.g., ACF, IAD, Multiple Streams, policy evaluation studies, policy analysis reports, etc.). You do not need to cover every single theory, sub-field, or framework that we covered in class. In most cases what you pay attention to will be dictated by what has been done; in some cases however, (such as if you picked the broad area of environmental policy), you might find you have too many sources. In those cases pick the best of what you find.
4. **Assess the Theories of the Policy Process and your area:** What aspects of your policy or problem have been addressed extensively? To what end? Where is work needed? Are there similar findings produced by different frameworks? Ultimately, how this section is structured will depend on what you found in the previous section. The important part here is that you need to think synthetically

(synthesize what you found), comparatively (compare findings, approaches, etc.), and analytically (argue and write well).

5. **Moving Forward:** In this final section, you have the opportunity to map where you would like to see policy theory to better understand your policy area/problem. You can focus on whatever you like here: solutions, gaps in our knowledge, a specific research design that you would like to employ, etc.

In order to help facilitate a quality paper, your policy theory paper will be “turned in” for assessment at several critical points throughout the semester. The rubric used to evaluate this paper is available

<b>Policy Theory Paper</b>			
<b>Assignment</b>	<b>Description</b>	<b>Date</b>	<b>Points</b>
Statement	A one paragraph statement about which policy area or problem you intend to examine; and 5 references.	July 5	10 Points.
Annotated Bibliography	An annotated list of references you will be consulting for your paper. I would guess you would need 20 minimum, but this list should be large as it will provide the basis for your paper and it is likely you will not use all the references.	July 19	25 Points
Outline	A full outline of your paper, including subheadings, and transition sentences between subheadings.	July 26	15 Points
Rough Draft	This is your first cut at the manuscript. Usually these are longer than the page limit (the delete key is your best friend for rewrites).	August 16	25 Points
Final Draft	A final, polished, insightful 15-20 page paper.	Sept.4	250 Points
<b>Total:</b>			<b>325 Points</b>

### Course Assignments and Points

Assignment	Possible Points	Learning Outcomes	Skill Set Outcomes
Weekly Canvas Discussion	135 (15 points each)	1, 2, 3, 4, 5, 6, 9	B, C, E
Policy Response Papers	100 (25 points each)	1, 2, 3, 4, 5, 6, 7, 8, 9	A
Policy Theory Paper	325	1, 2, 3, 4, 5, 6, 7, 8, 9	A
<b>Total=</b>	<b>560</b>		

### GRADING SCALE

Course Letter Grade	Percent of points possible*
A	[95-100%]
A-	[90-94%]
B+	[87-89%]
B	[83-86%]
B-	[80-82%]
C+	[77-79%]
C	[73-76%]
C-	[70-72%]
D+	[67-69%]
D	[63-66%]
D-	[60-62%]
F	[0-59%]

### CLASS SCHEDULE

	General Class Readings
<b>Week 1</b>	<p><b>Introducing Public Policy Theory: The Field of Public Policy, Early Frameworks, and Practical Importance</b></p> <ol style="list-style-type: none"> <li>1. <b>Smith and Larimer, Chapters 1 and 2</b>, pp. 1-45.</li> <li>2. <b>Weible and Sabatier, pp. 1-16</b>; Weible's "Introduction: the Scope and Focus of Policy Process Research and Theory"</li> <li>3. <b>Stone, Chapter 1</b>, pp. 1-37: Introduction and Politics</li> <li>4. <b>Domhoff, Introduction and Chapter 1</b>: pp. xi-21</li> </ol>

	<p><b>Policy Response Article</b></p> <p>5. Weible et al. 2012. "Understanding and Influencing the Policy Process," <i>Policy Sciences</i>, 45: pp. 1-21.</p>
<b>Week 2</b>	<p><b>Institutional Analysis and Development Framework</b></p> <p>1. <b>Smith &amp; Larimer, Chapter 3:</b> "Who Makes Decisions? How do they Make Decisions? Actors and Institutions." pp 47-72  2. <b>Sabatier 2007, Chapter 6</b>, pp. 215-252: Schlager and Cox, "The IAD Framework and the SES Framework: An Introduction and Assessment of the Ostrom Workshop Frameworks"</p> <p><b>Policy Response Articles</b></p> <p>3. Imperial Mark. T. 1999. "Institutional Analysis and Eco-System-Based Management: the Institutional Analysis and Development Framework." <i>Environmental Management</i>, 24(4): 449-65.  4. Basurto, Xavier. 2005. "How Locally Designed Access and Use Controls Can Prevent the Tragedy of the Commons in a Mexican Small-Sale Fishing Community." <i>Society and Natural Resources</i>, 18: 643-659.  5. <b>Stone Chapters 2-6</b>, pp. 39-154: Goals</p>
<b>Week 3</b>	<p><b>The Multiple Streams Approach</b></p> <p>1. <b>Smith &amp; Larimer, Chapter 4 (2<sup>nd</sup> ed) or Chapter 5 (3<sup>rd</sup> ed):</b> "Where does Policy Come From? The Policy Process."  2. <b>Weible and Sabatier, Chapter 1</b>, pp. 17-54: Herweg, Zahariadis and Zohlnhofer, "The Multiple Streams Framework: Foundations, Refinements, and Empirical Applications"</p> <p><b>Policy Response Articles</b></p> <p>3. Blankenau. 2001. "The Fate of National Health Insurance Coverage in Canada and the United States: A Multiple Streams Explanation," <i>Policy Studies Journal</i>, 20 (1): 38-55.  4. <b>Stone, Chapters 7-11</b>, pp. 157-268: Problems.  5. Jones et al. 2015. "A River runs through it: A Multiple Streams Meta-Review," <i>Policy Studies Journal</i> (June).</p>



<p><b>Week 4</b></p>	<p><b>Punctuated Equilibrium Theory</b></p> <ol style="list-style-type: none"> <li>1. <b>Weible and Sabatier, Chapter 2, pp. 55-102:</b> Jones, and Mortensen. "Punctuated Equilibrium Theory: Explaining Stability and Change in Public Policymaking."</li> <li>2. Prindle, David F. 2012. "Importing Concepts from Biology into Political Science: The Case of Punctuated Equilibrium." <i>Policy Studies Journal</i>, 40 (1): 21-44.</li> </ol> <hr/> <p><b>Policy Response Articles</b></p> <ol style="list-style-type: none"> <li>3. Schrad. 2009. "Constitutional Blemishes: American Alcohol Prohibition and Repeal as Policy Punctuation." <i>Policy Studies Journal</i>, 35 (3): 437-463.</li> <li>4. Worsham, Jeff and Chaun Stores. 2012. Pet Sounds: Subsystems, Regimes, Policy Punctuations, and the Neglect of African American Farmers, 1935-2006. <i>Policy Studies Journal</i>, 40 (1): 169-190.</li> <li>5. Givel, Michael. 2006. "Punctuated Equilibrium in Limbo: The Tobacco Lobby and U.S. State Policymaking from 1990 to 2003." <i>Policy Studies Journal</i>, 34 (3): 405-418.</li> </ol>
<p><b>Week 5</b></p>	<p><b>The Advocacy Coalition Framework</b></p> <ol style="list-style-type: none"> <li>1. <b>Weible and Sabatier, Chapter 4, pp. 135-172:</b> Jenkins-Smith et al. "The Advocacy Coalition Framework: An Overview of the Research Program."</li> <li>2. Weible, Christopher M., Paul A. Sabatier, and Kelly McQueen. 2009. "Themes and Variations: Taking Stock of the Advocacy Coalition Framework." <i>Policy Studies Journal</i>, 37 (1): 121-140.</li> </ol> <hr/> <p><b>Policy Response Articles</b></p> <ol style="list-style-type: none"> <li>3. Stich &amp; Miller. 2008. "Using the Advocacy Coalition Framework to Understand Freight Transportation Policy Change." <i>Public Works Management Policy</i> 13, 62-74.</li> <li>4. Nohrstedt, Daniel. 2008. The Politics of Crisis Policymaking: Chernobyl and Swedish Nuclear Energy Policy." <i>Policy Studies Journal</i>, 36 (2): 257-278.</li> <li>5. Jorgensen, Paul. D. 2017. "The Politics of Policy Formulation: Overcoming Subsystem Dynamics." In Michael Howlett and Ishani Mukherjee (eds.), <i>Handbook of Policy Formulation</i>. Cheltenham, UK: Edward Elgar, p. 449-462.</li> </ol>

<p><b>Week 6</b></p>	<p><b>Innovation and Diffusion</b></p> <ol style="list-style-type: none"> <li>1. <b>Weible and Sabatier, Chapter 7</b>, pp. 253-300. "Innovation and Diffusion Models in Policy Research"</li> <li>2. Shipan, Charles R., and Craig Volden. "The mechanisms of policy diffusion." <i>American journal of political science</i> 52, no. 4 (2008): 840-857.</li> </ol> <hr/> <p><b>Policy Response Articles</b></p> <ol style="list-style-type: none"> <li>3. Wiener, Joshua G., and Tomas M. Koontz. "Shifting Winds: Explaining Variation in State Policies to Promote Small-Scale Wind Energy." <i>Policy Studies Journal</i> 38, no. 4 (2010): 629-651.</li> <li>4. Krause, Rachel M. "Policy innovation, intergovernmental relations, and the adoption of climate protection initiatives by US cities." <i>Journal of Urban Affairs</i> 33, no. 1 (2011): 45-60.</li> <li>5. Daley, Dorothy M., and James C. Garand. "Horizontal diffusion, vertical diffusion, and internal pressure in state environmental policymaking, 1989-1998." <i>American Politics Research</i> 33, no. 5 (2005): 615-644.</li> </ol>
<p><b>Week 7</b></p>	<p><b>Policy Design and Social Construction</b></p> <ol style="list-style-type: none"> <li>1. <b>Smith and Larimer, Chapter 8 (2<sup>nd</sup> ed) or Chapter 4 (3<sup>rd</sup> ed):</b> "Whose Values? Policy Design."</li> <li>2. <b>Sabatier and Weible, 3<sup>rd</sup> edition, Chapter 4</b>, pp. 105-150: Ingram, Schneider, and DeLeon. "Democratic Policy Design: Social Construction of Target Populations."</li> </ol> <hr/> <p><b>Policy Response Articles</b></p> <ol style="list-style-type: none"> <li>3. Sidney, M. 2001. "Images of Race, Class, and Markets: Rethinking the Origin of U.S. Fair Housing Policy." <i>Journal of Policy History</i>, 13 (2): 181-214.</li> <li>4. Pierce, Jonathan J., Saba Siddiki, <i>Michael D. Jones</i>, Kristin Schumacher, Andrew Pattison, &amp; Holly Peterson. 2014. "Understanding what is Inside the Box: Analysis of the Policy Design and Social Construction Literature." <i>Policy Studies Journal</i>, 42 (1): 1-29.</li> <li>5. <b>Stone, Chapters 12-16, pp. 271-378:</b> Solutions.</li> </ol>
<p><b>Week 8</b></p>	<p><b>The Narrative Policy Framework</b></p> <ol style="list-style-type: none"> <li>1. <b>Weible and Sabatier, Chapter 5</b>, pp. 173-214: Jones, McBeth and Radaelli, "The Narrative Policy Framework."</li> </ol>

	<p>2. Weible, Christopher and Edella Schlager. 2014. "Narrative Policy Framework: Contributions, Limitations, and Recommendations." in <i>The Science of Stories: Applications of the Narrative Policy Framework in Public Policy Analysis</i>, (ed.) Michael D. Jones, Elizabeth A. Shanahan, and Mark K. McBeth. New York, New York: Palgrave Macmillan, pp. 235-246.</p> <p><b>Policy Response Articles</b></p> <p>3. Shanahan, Elizabeth, Michael D. Jones, Mark K. McBeth, and Ross Lane. 2013. "An Angel on the Wind: How Heroic Policy Narratives Shape Policy Realities." <i>Policy Studies Journal</i>, 41 (3): 453-483.</p> <p>4. Jones, Michael D. 2013. "Cultural Characters and Climate Change: How Heroes Shape our Perceptions of Climate Science." <i>Social Science Quarterly</i>, 95 (1): 1-39.</p> <p>5. Ney, Steven. 2014. "The Governance of Social Innovation: Connecting Meso and Macro Levels of Analysis." In <i>The Science of Stories: Applications of the Narrative Policy Framework in Public Policy Analysis</i>, (ed.) Michael D. Jones, Elizabeth Shanahan, and Mark K. McBeth. New York: Palgrave Macmillan.</p>
<b>Week 9</b>	<p><b>Policy Feedback Theory</b></p> <p>1. <b>Sabatier and Weible, 3<sup>rd</sup> edition, Chapter 5</b>, pp. 151-182: Mettler and SoRelle "Policy Feedback Theory."</p> <p><b>Policy Response Articles</b></p> <p>2. Jordan, Jason. 2013. "Policy Feedback and Support for the Welfare State," <i>Journal of European Social Policy</i> 23: 134-148.</p> <p>3. Kline, David. 2001. "Positive Feedback, Lock-In, and Environmental Policy," <i>Policy Sciences</i> 34: 95-107.</p>
<b>Week 10</b>	<p><b>Surveying and Critiquing the Field</b></p> <p>1. <b>Smith &amp; Larimer, Chapter 9 &amp; 10 (both 2<sup>nd</sup> &amp; 3<sup>rd</sup> ed).</b></p> <p>2. <b>Weible and Sabatier, Chapter 8</b>, pp. 301-328: Heikkila and Cairney, "A Comparison of Theories of the Policy Process."</p> <p>3. <b>Weible and Sabatier, Chapter 9</b>, pp.329-362: Tosun and Workman, "Struggle and Triumph in Fusing Policy Process and Comparative Research."</p> <p>4. <b>Weible and Sabatier, Chapter 10</b>, pp. 363-378: Weible, "Moving Forward and Climbing Upward: Advancing Policy Process Research."</p>

	5. <b>Stone Conclusion, pp. 379-386:</b> Policy Analysis and Political Argument.
	<b>Policy Response Book</b> Domhoff, (All); Brace, Glenn. 2015. "Toward a Critical Race Theory of State," <i>Critical Sociology</i> , pp. 553-572.
<b>Finals Week</b>	<b>Policy Theory Paper Due</b>

## **COURSE POLICIES**

### **Discussion Participation**

Students are expected to participate in all graded discussions. While there is great flexibility in online courses, this is not a self-paced course. You will need to participate in our discussions on at least two different days each week, with your first post due no later than Wednesday evening, and your second and third posts due by the end of each week.

### **Incompletes**

Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final paper). If you are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let me know right away.

### **Academic Integrity**

Students are expected to comply with all regulations pertaining to academic honesty.

OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:

a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.

b) It includes:

(i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent

mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.

(ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.

(iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).

(iv) TAMPERING - altering or interfering with evaluation instruments or documents.

(v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.

## **Global Energy Markets, Business and Policy**

Bernard L. Weinstein, Associate Director, Maguire Energy Institute, Southern Methodist University

### **Description of course:**

BUSE 4334 is designed to give students an overview of the energy industry and public policies that affect energy investment and production. Because most sectors of the energy industry are global in scope, readings, lectures and discussions will focus on both the domestic and international energy markets. The specific topics and areas we will examine are listed below under the weekly assignments.

Since this is an interdisciplinary course, there is no required textbook. Instead, students will be exposed to a wide range of articles and policy studies, and these readings will provide different points of view on each topic. URL links to the readings will be provided so that in most cases it will be unnecessary to go to a library to find the documents.

### **Weekly assignments:**

The topics and approximate dates to be discussed are shown below. Articles on the reading list are keyed to each topic. Though the number of readings is lengthy, keep in mind that this is not textbook material. You do not have to commit specific facts to memory, nor do you need to make references to particular articles or reports in class or on your exams. Rather, the readings are intended to give you broad exposure to the topics being covered.

As energy policy is a moving target, during the semester additional readings will be assigned.

Week of August 24:	<b>Introduction to instructor and course</b>
Week of August 31:	<b>An overview of the U.S. energy industry and policy</b>
Week of September 7:	<b>The impact of COVID-19 on the American energy industry</b>
Week of Sept. 14:	<b>Spindletop, oil and natural gas</b>
Week of Sept. 21:	<b>The shale revolution: an energy game changer?</b>

Weeks of Sept. 28 and October 5:	<b>The future of coal and nuclear power</b>
Week of October 12:	(No Zoom classes this week. Midterm will be distributed on October 13 and must be submitted no later than October 20)
Week of October 19:	<b>Electricity and the transmission grid</b>
Week of October 26:	<b>Renewables and clean energy</b>
Week of November 2:	<b>Energy and the environment: policy, taxation and regulation</b>
Week of Nov. 9:	<b>Macroeconomic and community impacts of energy development</b>
Week of Nov. 16:	<b>Transportation and pipelines</b>
Week of Nov. 23: 26)	<b>Energy and global competition</b> (no class on Nov. 26)
Week of Nov 30:	<b>Can the U.S. become energy independent?</b> (Final exam will be distributed on December 4 and must be submitted no later than 5 p.m. on December 11)

### Issue paper:

Each student will be required to write a “policy report” or “issue paper” on a subject of their interest. This assignment is not the same as a heavily researched and footnoted term paper. It should be viewed as an 8-10 page briefing paper on a critical strategy or policy matter facing a senior decision maker in a private or public organization in the energy field. The paper must be submitted no later than December 3, which is also the last class of the semester. A list of topics that students have addressed in the past will be posted.

### Reading Assignments:

#### 1. The impacts of COVID-19 on the energy industry

<https://www.nytimes.com/2019/12/11/business/energy-environment/natural-gas-shale-chevron.html> (gas glut grows around the world)

<https://www.wsj.com/articles/a-decade-in-which-fracking-rocked-the-oil-world-11576630807> (how fracking changed the energy world over a decade)

<https://www.commentarymagazine.com/articles/the-fracking-decade/> (the fracking decade)

<https://www.ft.com/content/07dd54e4-2e3b-11ea-bc77-65e4aa615551?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (does lower gross imports mean less price volatility?)

<https://www.axios.com/energy-predictions-reality-check-524b9be9-2c0c-407e-86cb-37b11aa72ed2.html> (energy predictions and actuals for the 2010s)

<https://www.ft.com/content/4e1fa700-4334-11ea-a43a-c4b328d9061c?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (Shell profits down 50%)

<https://www.eenews.net/energywire/2020/02/10/stories/1062310667> (Corona virus threatens energy sector)

[https://www.houstonchronicle.com/business/energy/article/Texas-eyeing-China-s-alternative-energy-15032209.php?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=HC\\_Daily\\_Headlines&utm\\_term=news&utm\\_content=headlines](https://www.houstonchronicle.com/business/energy/article/Texas-eyeing-China-s-alternative-energy-15032209.php?utm_source=newsletter&utm_medium=email&utm_campaign=HC_Daily_Headlines&utm_term=news&utm_content=headlines) (China develops its energy sector)

<https://www.ft.com/content/18f37c42-4d97-11ea-95a0-43d18ec715f5?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (Big Oil is at a critical crossroads)

<https://www.houstonchronicle.com/business/energy/article/Is-coronavirus-causing-the-largest-oil-decline-in-15108606.php> (Coronavirus causes first drop in global oil demand since financial crisis)

<https://www.reuters.com/article/us-kinder-morgan-permian/kinder-morgan-uncertain-about-proposed-texas-permian-pass-natgas-pipeline-idUSKBN20S2IC> (Permian gas pipeline may be canceled because of lack of customers in low price environment)

[https://www.ft.com/content/d700b71a-6122-11ea-b3f3-fe4680ea68b5?accessToken=zwAAAXDAPjQkdPXALcaYSIR6tOz8\\_5GgOpotQ.MEQCIHa0FPrDoRE0oG1MUIaNymuF3BAZ-TqdRGZnajYIsf1CAiBtA--ObfZTX5dymKTmb0-GRuAh7X9vXNoEkdQeupOYEw&sharetype=gift?token=d243f50e-1dc1-46ca-a3e4-a60a09b6c135](https://www.ft.com/content/d700b71a-6122-11ea-b3f3-fe4680ea68b5?accessToken=zwAAAXDAPjQkdPXALcaYSIR6tOz8_5GgOpotQ.MEQCIHa0FPrDoRE0oG1MUIaNymuF3BAZ-TqdRGZnajYIsf1CAiBtA--ObfZTX5dymKTmb0-GRuAh7X9vXNoEkdQeupOYEw&sharetype=gift?token=d243f50e-1dc1-46ca-a3e4-a60a09b6c135) (Saudi and Russia start a price war in an effort to increase market share at the expense of US shale producers)

<https://www.nytimes.com/2020/03/09/business/energy-environment/saudi-oil-price-impact.html?searchResultPosition=1> (fallout from Saudi-Russia price war)

<https://finance.yahoo.com/news/america-days-net-oil-exporter-195451194.html> (will the price war make the US a net oil importer again instead of an exporter?)

<https://www.economist.com/finance-and-economics/2020/03/12/no-one-is-likely-to-win-the-oil-price-war> (everyone loses in the oil price war)



<https://www.ft.com/content/ce35945a-62dc-11ea-b3f3-fe4680ea68b5?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (can Russia kill US shale?)

<https://thehill.com/opinion/energy-environment/486975-its-not-armageddon-for-americas-oil-and-gas-industry> (shale will survive)

<https://www.reuters.com/article/us-global-oil-exports/us-crude-exports-to-drop-by-one-million-barrels-per-day-on-saudi-oil-tsunami-sources-idUSKBN21035C> (will growing Saudi production crimp US exports?)

<https://www.axios.com/10-coronavirus-changes-energy-climate-1cac55b9-8b33-4f7b-afed-ab91f5c75e65.html> (how COV-19 is changing the energy outlook)

<https://www.nytimes.com/2020/03/18/nyregion/solar-energy-farms-ny.html?searchResultPosition=1> (local pushback against solar farms)

<https://www.reuters.com/article/us-global-oil-exports/us-crude-exports-to-drop-by-one-million-barrels-per-day-on-saudi-oil-tsunami-sources-idUSKBN21035C> (growth of Saudi production may reduce US exports)

<https://www.nytimes.com/2020/03/18/world/americas/guyana-oil-exxon-elections.html?searchResultPosition=1> (oil find offshore Guyana is mixed blessing for locals)

<https://www.ft.com/content/6f4187a0-639b-11ea-abcc-910c5b38d9ed?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (is the oil crash the beginning of the end?)

<https://www.nytimes.com/2020/03/13/climate/coronavirus-habits-carbon-footprint.html> (social distancing helps fight climate change?)

[https://www.gjsentinel.com/news/western\\_colorado/ferc-approves-jordan-cove-project/article\\_4605735e-6a05-11ea-b082-ab1dae1bc3d2.html?utm\\_medium=social&utm\\_source=email&utm\\_campaign=user-share](https://www.gjsentinel.com/news/western_colorado/ferc-approves-jordan-cove-project/article_4605735e-6a05-11ea-b082-ab1dae1bc3d2.html?utm_medium=social&utm_source=email&utm_campaign=user-share) (FERC approves LNG export terminal in Oregon but project faces opposition from state and enviros)

<https://www.economist.com/united-states/2020/03/12/a-renewable-energy-boom-is-changing-the-politics-of-global-warming> (Texas leads the nation in wind energy)

<https://www.nytimes.com/2020/03/20/nyregion/coal-energy-ny.html?searchResultPosition=2> (closure of last NY coal plant brings economic gloom to small upstate community)

<https://www.nytimes.com/2020/03/26/business/energy-environment/oil-storage.html?searchResultPosition=1> (world running out of storage for oil)

<https://www.ft.com/content/32ce6962-6e15-11ea-89df-41bea055720b?desktop=true&segmentId=fe4987a4-0d36-0eb5-d88f-99ac7b30c569#myft:notification:weekly-email:content> (is energy independence over for the U.S.?)

[https://nypost.com/2020/03/27/why-dems-are-so-bent-on-passing-wind-amid-corona-crisis/?utm\\_source=twitter\\_sitebuttons&utm\\_medium=site%20buttons&utm\\_campaign=site%20buttons](https://nypost.com/2020/03/27/why-dems-are-so-bent-on-passing-wind-amid-corona-crisis/?utm_source=twitter_sitebuttons&utm_medium=site%20buttons&utm_campaign=site%20buttons) (do we need more wind and solar subsidies at this time of economic crisis?)

<https://business.financialpost.com/commodities/energy/north-american-oil-cartel> (does a north American oil cartel make economic and political sense?)

[https://www.houstonchronicle.com/business/energy/article/coronavirus-oil-sector-stand-still-crash-economy-15175050.php?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=HC\\_Daily\\_Headlines&utm\\_term=news&utm\\_content=headlines](https://www.houstonchronicle.com/business/energy/article/coronavirus-oil-sector-stand-still-crash-economy-15175050.php?utm_source=newsletter&utm_medium=email&utm_campaign=HC_Daily_Headlines&utm_term=news&utm_content=headlines) (COVID decimates the Texas oil industry)

[https://www.thetimes.co.uk/article/cheap-fashion-is-costing-the-earth-scientists-warn-02g3pdfn3?utm\\_source=Silverpop&utm\\_campaign=RA\\_Engagement\\_Global&utm\\_medium=email&utm\\_content=cheap\\_M](https://www.thetimes.co.uk/article/cheap-fashion-is-costing-the-earth-scientists-warn-02g3pdfn3?utm_source=Silverpop&utm_campaign=RA_Engagement_Global&utm_medium=email&utm_content=cheap_M) (let's go back to wearing loin cloths!)

[https://www.realcleanenergy.org/articles/2020/04/08/colluding\\_with\\_the\\_oil\\_enemy\\_488635.html](https://www.realcleanenergy.org/articles/2020/04/08/colluding_with_the_oil_enemy_488635.html) (do we need a global Texas Railroad Commission to balance supply with demand?)

<https://www.ft.com/content/16ac91d8-42bf-4190-88de-f3d89b2b36f4?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (unified effort by OPEC, Russia and G20 to cut global oil production by 15 million bbd)

<https://www.nytimes.com/2020/04/10/opinion/sunday/coronavirus-texas-fracking-layoffs.html> (will corona kill fracking?)

<https://oilprice.com/Energy/Energy-General/How-The-US-Can-Retain-Its-Energy-Dominance.html> (retaining American energy dominance)

<https://www.bloomberg.com/news/articles/2020-04-14/oil-executives-impugn-motives-of-texas-crude-quota-advocates> (battle between independents and majors at Texas Railroad Commission)

<https://www.reuters.com/article/us-usa-power-demand/u-s-power-demand-falls-to-16-year-low-as-coronavirus-cuts-use-by-companies-idUSKCN21Q36R> (electric power demand lowest in 16 years.)

<https://www.wsj.com/articles/flood-of-saudi-oil-looms-as-u-s-drillers-face-supply-glut-11587119400?mod=searchresults&page=1&pos=1> (Saudi shipments to worsen supply glut)

<https://www.ft.com/content/75c32809-2cf7-40d6-9c27-b4131d372234?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (Saudi shipments arrive in use, increasing net imports)

<https://www.economist.com/leaders/2020/04/16/the-future-of-the-oil-industry> (is the virus a foretaste of things to come for the oil industry?)

[https://oilprice.com/Energy/Crude-Oil/Do-US-Shale-Drillers-Deserve-To-Exist-In-Free-Markets.html?utm\\_source=linkedin&utm\\_medium=linkedin\\_repost](https://oilprice.com/Energy/Crude-Oil/Do-US-Shale-Drillers-Deserve-To-Exist-In-Free-Markets.html?utm_source=linkedin&utm_medium=linkedin_repost) (the bleak outlook for shale producers)

<https://www.nytimes.com/2020/04/20/business/oil-prices.html> (oil prices go negative; how long will this last?)

<https://www.nytimes.com/2020/04/22/world/middleeast/oil-price-collapse-coronavirus.html?searchResultPosition=2> (global economic ripple effects of the oil price collapse)

<https://www.nytimes.com/2020/04/21/business/energy-environment/coronavirus-oil-prices-collapse.html?searchResultPosition=1> (pessimistic view of oil's future)

<https://www.wsj.com/articles/we-pulled-the-plug-as-oil-prices-plunge-drillers-in-the-gulf-shut-off-wells-11587558182?mod=searchresults&page=1&pos=2> (producers shut wells in Gulf of Mexico)

<https://www.nytimes.com/2020/04/22/business/north-sea-oil-coronavirus.html?searchResultPosition=1> (is the end nigh for North Sea oil?)

<https://www.statesman.com/opinion/20200423/opinion-texas-should-slow-production-to-stop-oil-and-gas-waste> (an argument for limiting oil production in Texas and elsewhere)

<https://www.nytimes.com/2020/04/23/business/oil-markets-tankers.html?searchResultPosition=1> (now's the time to be in the tanker business)

<https://thehill.com/opinion/energy-environment/486975-its-not-armageddon-for-americas-oil-and-gas-industry> (Weinstein commentary)

<https://www.insidesources.com/the-greening-of-texas/> (Weinstein commentary)

<https://thehill.com/opinion/energy-environment/490949-america-must-take-steps-now-to-sustain-its-energy-dominance> (Weinstein commentary)

<https://thehill.com/opinion/energy-environment/492748-this-is-prime-time-to-increase-the-federal-gasoline-tax> (Weinstein commentary)

<https://www.ft.com/content/695be02b-cbc8-4f0f-9d17-968a3fe9b9a2?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft.notification:daily-email:content> (the new reality facing Big Oil)

[https://www.economist.com/united-states/2020/04/23/the-limits-of-energy-independence?utm\\_campaign=the-economist-today&utm\\_medium=newsletter&utm\\_source=salesforce-marketing-cloud&utm\\_term=2020-04-24&utm\\_content=article-link-3](https://www.economist.com/united-states/2020/04/23/the-limits-of-energy-independence?utm_campaign=the-economist-today&utm_medium=newsletter&utm_source=salesforce-marketing-cloud&utm_term=2020-04-24&utm_content=article-link-3) (the end of “energy independence” for America?)

[https://www.houstonchronicle.com/business/energy/article/The-great-Texas-oil-shut-in-has-begun-15224199.php?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=HC\\_Daily\\_Headlines&utm\\_term=news&utm\\_content=headlines](https://www.houstonchronicle.com/business/energy/article/The-great-Texas-oil-shut-in-has-begun-15224199.php?utm_source=newsletter&utm_medium=email&utm_campaign=HC_Daily_Headlines&utm_term=news&utm_content=headlines) (the Texas oil shutdown begins)

<https://www.wsj.com/articles/in-another-hit-for-farmers-coronavirus-crushes-ethanol-market-11587902400?mod=searchresults&page=1&pos=1> (less ethanol production hurts corn farmers)

<https://www.ft.com/content/d9ae865b-fe55-4727-a935-589c0fe27976?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft.notification:daily-email:content> (30,000 oil jobs may be lost in the North Sea)

<https://www.nytimes.com/2020/04/28/business/coronavirus-oil-texas-port.html?searchResultPosition=1> (oil crisis hits the Port of Corpus Christi)

<https://www.argusmedia.com/en/news/2100349-up-to-25-us-lng-cargoes-may-be-cancelled> (demand for LNG cargoes from US plummets due to economic fallout from COVID-19)

<https://www.nytimes.com/2020/04/30/climate/global-emissions-decline.html?searchResultPosition=1> (greenhouse gas emissions down 8 percent, but for the wrong reasons)

[https://www.wsj.com/articles/chevron-lowers-outlook-for-capital-spending-by-another-2-billion-11588333062?mod=hp\\_lead\\_pos7](https://www.wsj.com/articles/chevron-lowers-outlook-for-capital-spending-by-another-2-billion-11588333062?mod=hp_lead_pos7) (Exxon reports first loss in 30 years)

<https://www.nytimes.com/2020/05/01/business/energy-environment/oil-industry-texas-coronavirus.html?searchResultPosition=1> (hard times in the Permian)

<https://www.ft.com/content/99fc40be-83aa-11ea-b872-8db45d5f6714?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (has Covid moved up the date for “peak oil” demand?)

<https://www.wsj.com/articles/oil-majors-delay-deals-amid-volatile-crude-prices-lockdowns-11588592106> (Covid puts oil deal-making on hold)

<https://www.ft.com/content/ab2f0277-1ec0-47ea-a674-9c205fa22c01> (oil bust decimates UT endowment funds)

[https://thehill.com/policy/energy-environment/496263-legislation-aims-to-preclude-fossil-fuel-companies-from-receiving?mkt\\_tok=eyJpIjoiWkRieU1EUXpNRGd6TXpjeSIsInQiOiJHSkszVXdTVM4ancrZlFQNmVKU01HMW5LK05xM3BHZTBsYjBIRGtORkNFT3hKOWswNE9PQINBWIBHeXhQVDRKMnYzazFCYkpLK1ZuQ2JmeVhCMWpsSDJNbitDQ3pqNU1jS25cL1lFeHpjejdFb3pRbW4rcGdWaWJjZTZPZEIKR28ifQ%3D%3D](https://thehill.com/policy/energy-environment/496263-legislation-aims-to-preclude-fossil-fuel-companies-from-receiving?mkt_tok=eyJpIjoiWkRieU1EUXpNRGd6TXpjeSIsInQiOiJHSkszVXdTVM4ancrZlFQNmVKU01HMW5LK05xM3BHZTBsYjBIRGtORkNFT3hKOWswNE9PQINBWIBHeXhQVDRKMnYzazFCYkpLK1ZuQ2JmeVhCMWpsSDJNbitDQ3pqNU1jS25cL1lFeHpjejdFb3pRbW4rcGdWaWJjZTZPZEIKR28ifQ%3D%3D) (Progressive in Congress want to prevent oil and gas companies from receiving any federal assistance during pandemic)

<https://www.insidesources.com/can-oil-and-gas-industry-survive-virus/> (commentary by B. Weinstein)

<https://thehill.com/policy/energy-environment/496719-oil-communities-face-prospect-of-years-long-recovery?userid=9556> (it may take years for oil regions to recover)

<https://www.eenews.net/climatewire/2020/05/07/stories/1063068197> (has “peak oil” arrived early, thanks to Covid-19?)

<https://www.ft.com/content/e76563f0-1fe3-4f95-8372-8ac1c970bcd4?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (Argentina to support \$45 oil in an effort to save the Vaca Muerta shale play)

<https://www.spglobal.com/platts/en/events/americas/mexican-energy> (investments deferred on Texas LNG projects)

[https://www.wsj.com/articles/who-needs-oil-when-even-opeac-telecommutes-11589139930?mod=opinion\\_lead\\_pos7](https://www.wsj.com/articles/who-needs-oil-when-even-opeac-telecommutes-11589139930?mod=opinion_lead_pos7) (will telecommuting kill the shale industry?)

[https://www.santafenewmexican.com/news/local\\_news/land-commissioner-oil-gas-cleanup-could-cost-billions/article\\_1beb9892-7e68-11ea-b747-6fa046476432.html?utm\\_source=1500+CWP+List+Daily+Clips+and+Updates&utm\\_campaign=97dda5854c-EMAIL\\_CAMPAIGN\\_2020\\_05\\_04\\_09\\_19&utm\\_medium=email&utm\\_term=0\\_4369a4e737-97dda5854c-84225109](https://www.santafenewmexican.com/news/local_news/land-commissioner-oil-gas-cleanup-could-cost-billions/article_1beb9892-7e68-11ea-b747-6fa046476432.html?utm_source=1500+CWP+List+Daily+Clips+and+Updates&utm_campaign=97dda5854c-EMAIL_CAMPAIGN_2020_05_04_09_19&utm_medium=email&utm_term=0_4369a4e737-97dda5854c-84225109) (orphan wells a growing financial burden in oil and gas states)

<https://www.ft.com/content/21afff2-1e57-4000-a439-62cfef6344fb?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (has Covid-19 ushered in peak oil demand?)

<https://www.nytimes.com/2020/05/11/business/energy-environment/natural-gas-exports-coronavirus.html?searchResultPosition=1> (pandemic slows natural gas exports and LNG investment projects)

<https://www.wsj.com/articles/pandemic-sparks-slump-in-electricity-prices-11589186666?mod=searchresults&page=1&pos=1> (wholesale electricity prices fall across the US as demand for power drops)

<https://www.wsj.com/articles/wanted-somewhere-anywhere-to-store-lots-of-cheap-oil-11589207580?mod=searchresults&page=1&pos=2> (searching for places to store oil)

<https://www.eenews.net/energywire/2020/05/19/stories/1063172929> (Mexico pushes pause button on renewable energy)

<https://www.mckinsey.com/industries/oil-and-gas/our-insights/oil-and-gas-after-covid-19-the-day-of-reckoning-or-a-new-age-of-opportunity> (oil and gas industry faces new long-term reality)

<https://www.nationalreview.com/2020/05/coronavirus-lockdowns-have-not-made-air-cleaner/> (shutdowns have not improved air quality in most places)

<https://www.nytimes.com/2020/05/22/business/negative-electricity-rates.html?searchResultPosition=2> (pandemic leads to negative power prices)

<https://www.ft.com/content/e2ec8421-6ee4-4d59-8052-4580a3337bc2> (shale companies lose \$26B in quarter while bankruptcies rise)

<https://www.houstonchronicle.com/business/energy/article/Report-Oil-gas-paid-13-4-billion-to-Texas-15287352.php> (Texas state finances take huge hit from lost revenues from oil and gas industry due to pandemic)

<https://www.wsj.com/articles/coronavirus-threatens-to-hobble-the-u-s-shale-oil-boom-for-years-11590312601?mod=searchresults&page=1&pos=1> (pain in the shale patch likely to last for years)

<https://www.ft.com/content/72e89c06-cb0f-4a92-beec-f2cdc3bb7b02?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (energy investment projected to fall 20 percent over next year due to Covid)

<https://www.houstonchronicle.com/business/energy/article/Texas-oil-gas-industry-shed-record-number-of-15294860.php> (huge job losses in Texas oil and gas industry)

<https://www.wsj.com/articles/investment-in-u-s-shale-projects-to-halve-in-2020-ia-says-11590552000> (investments in shale projected to decline by 50% in 2020)

<https://thehill.com/opinion/energy-environment/500047-forget-politics-america-needs-a-realistic-debate-about-our-energy> (commentary by B. Weinstein)

<https://www.ft.com/content/46cd47da-281e-4b63-80a3-db14eecb5650?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (BP to cut 10,000 jobs)

<https://www.ft.com/content/22d4362e-48a1-4da4-9518-492025e7ea21> (will OPEC cuts ramp up shale oil production in the US?)

<https://www.insidesources.com/covid-19-should-not-be-a-stalking-horse-for-climate-agendas/> (commentary by B. Weinstein)

<https://www.ft.com/content/a51e029b-e439-4b7d-a5c0-93fe3d0c9ec0?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (global gas demand to fall in 2020)

<https://www.houstonchronicle.com/business/columnists/tomlinson/article/Coronavirus-costing-oil-gas-1-8-trillion-data-15327990.php> (Covid-19 will cost oil and gas industry \$1.8 trillion)

<https://www.wsj.com/articles/u-s-frackers-to-zero-in-on-richest-oil-fields-after-coronavirus-11591695021> (frackers to focus on Permian during rebound) (WATCH IMBEDDED VIDEO ABOUT THE PERMIAN)

<https://www.ft.com/content/6a3872a0-fa38-4a1c-90fa-2db35cbfff58?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (US loses advantages in global LNG market)

<https://www.ft.com/content/590b1fec-af0d-11ea-a4b6-31f1eedf762e?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (BP may become “beyond petroleum” after all)

<https://www.ft.com/content/2d84fc23-f38d-498f-9065-598f47e1ea09> (BP takes major write-down of assets anticipating lower prices and demand for oil)

<https://www.wsj.com/articles/oil-demand-is-headed-for-record-rebound-in-2021-11592294704> (oil demand will rebound by nearly 6 million bbd in 2021)

<https://www.nytimes.com/2020/06/28/business/economy/chesapeake-energy-bankruptcy.html?searchResultPosition=1> (Chesapeake Energy, a shale pioneer, files for bankruptcy)

<https://www.wsj.com/articles/exxon-mobil-resists-write-downs-as-oil-gas-prices-plummet-11593521685?mod=searchresults&page=1&pos=1> (unlike other Big Oil companies, Exxon resists asset writedowns)

[https://www.ft.com/content/e08129d2-a4df-446a-9480-0cbeee29022d?accessToken=zwAAAXMqUe0YkdPggSnSpN9EatOUgAy-7ikCLQ.MEQCIF0aXuZLFrePxZ\\_sFnpO3UENmEwOYrKMn8YVhk1asZFmAiB74Dj7RS4Fv0aOESgUQXQIlt2xPwO9muQ-8vU4ymggIA&sharetype=gift?token=35678480-054b-4d4c-8846-285809a1b408](https://www.ft.com/content/e08129d2-a4df-446a-9480-0cbeee29022d?accessToken=zwAAAXMqUe0YkdPggSnSpN9EatOUgAy-7ikCLQ.MEQCIF0aXuZLFrePxZ_sFnpO3UENmEwOYrKMn8YVhk1asZFmAiB74Dj7RS4Fv0aOESgUQXQIlt2xPwO9muQ-8vU4ymggIA&sharetype=gift?token=35678480-054b-4d4c-8846-285809a1b408) (US energy sector contracts while other sectors gain)

<https://www.nytimes.com/2020/07/12/climate/oil-fracking-bankruptcy-methane-executive-pay.html?action=click&module=Top%20Stories&pgtype=Homepage> (some executives have reaped huge bonuses in bankruptcy)

<https://apps.publicintegrity.org/blowout/texas-oil-gas-boom-port-cities/> (building the infrastructure to support a booming industry)

<https://www.reuters.com/article/us-oil-shale-texas/texas-and-new-mexico-shale-basins-hold-49-years-worth-of-oil-usgs-idUSKBN1O52IV> (USGS says Permian has 50 years of reserves)

<https://www.ft.com/content/2b420a2a-06c2-11e9-9fe8-acdb36967cfc?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (a review of major energy developments in 2018)

<https://www.wsj.com/articles/maduro-wrecked-venezuelas-oil-industry-11549325002?mod=searchresults&page=1&pos=1> (how Maduro destroyed Venezuela's oil industry)

<https://www.eenews.net/energywire/2019/02/19/stories/1060121347> (Alaska native Americans fight development of the ANWR)

<https://www.ft.com/content/36547264-35bf-11e9-bd3a-8b2a211d90d5?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (capital spending by major to increase threefold in 2019)

<https://www.ft.com/content/dea984f4-39a7-11e9-b72b-2c7f526ca5d0> (head of Aramco worries about perception that fossil fuels will fall into disuse)

[https://www.wsj.com/articles/how-a-russian-gas-pipeline-is-driving-a-wedge-between-the-u-s-and-its-allies-11552254955?shareToken=st79615c0016d24fffb989a4080d43c795&reflink=article\\_email\\_share](https://www.wsj.com/articles/how-a-russian-gas-pipeline-is-driving-a-wedge-between-the-u-s-and-its-allies-11552254955?shareToken=st79615c0016d24fffb989a4080d43c795&reflink=article_email_share) (battles over Nord Stream 2 stress international relations)



<https://www.nytimes.com/2019/04/11/business/energy-environment/mexico-oil-electricity-gasoline.html> (Obrador seeks to revive Pemex)

<https://www.wsj.com/articles/opec-vs-shale-the-battle-for-oil-price-supremacy-11555588826?mod=searchresults&page=1&pos=1> (OPEC v. shale)

<https://www.ft.com/content/4523afd8-7e73-11e9-81d2-f785092ab560?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (big oil faces energy transition)

<https://oilprice.com/Energy/Energy-General/The-US-Cements-Its-Position-As-World-Leader-In-Oil-Reserves.html> (U.S. is world leader in oil reserves)

<https://www.ft.com/content/5d137e72-9901-11e9-8cfb-30c211dcd229?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (Vaca Muerta in Argentina starts to produce)

<https://www.nytimes.com/2019/06/30/business/energy-environment/oil-companies-profit.html> (being energy independent doesn't necessarily mean having a profitable oil and gas industry)

<https://www.ft.com/content/74c1e548-9ccd-11e9-b8ce-8b459ed04726?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (no more O&G industry in the UK?)

<https://www.wsj.com/articles/fire-up-the-grill-propane-prices-have-tumbled-11562673600?mod=searchresults&page=1&pos=1> (lower prices boost US propane exports)

<https://www.nytimes.com/interactive/2019/07/07/business/economy/iran-strait-of-hormuz-tankers.html?searchResultPosition=1> (why the Strait of Hormuz is so important)

<https://www.houstonchronicle.com/business/columnists/tomlinson/article/Petrochemical-industry-has-five-years-to-prepare-14095831.php?cmpid=gsa-chron-result> (is petrochemical industry heading for a bust?)

<https://www.wsj.com/articles/exxons-profit-revenue-fall-in-latest-quarter-11564747987> (natural gas glut hurts bottom line of majors)

<https://www.reuters.com/article/usa-crude-exports/update-1-us-crude-exports-rise-to-monthly-record-of-316-mln-bpd-in-june-us-census-idUSL2N24Y12T> (US oil exports exceed 3 million bpd)

<https://www.ft.com/content/5543d674-b512-11e9-8cb2-799a3a8cf37b?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (Exxon and Chevron boost production in the Permian Basin)

<https://www.nytimes.com/2019/08/12/business/energy-environment/plastics-shell-pennsylvania-plant.html?searchResultPosition=1> (overcapacity looming for petrochemicals?)

<https://www.ft.com/content/b83e89a2-ba78-11e9-96bd-8e884d3ea203?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (because of sluggish global demand, short-term outlook for oil darkens)

<https://www.wsj.com/articles/behind-oils-rise-is-a-historic-drop-in-u-s-crude-output-11594027801?mod=searchresults&page=1&pos=1> (uncertainty for shale companies as oil prices rebound)

<https://www.wsj.com/articles/banks-energy-boycott-is-an-antitrust-problem-11594746486?mod=searchresults&page=1&pos=1> (a growing number of banks boycott energy companies)

<https://www.wsj.com/articles/universities-cut-oil-investments-as-student-activism-builds-11594719181?mod=searchresults&page=1&pos=1> (more universities opt for divestment from fossil fuel companies)

[https://www.ft.com/content/8765f0ca-1f6e-4106-bc2f-87b3e1cfce93?accessToken=zwAAAXNtM7jlkdOHZFdkH25BBtO8L4ez4c\\_Okw.MEUCIFumlOsewvMOsFEpt1MGfH-KGmrRyZu1jrPprLQpRf8LAIeA451cC2LuwV82pzqnrpEyAl8t5Cghr2nn8clz3c3P3M4&sharetype=gift?token=acd78278-3fe1-4c21-a066-3af8bc2c3e68](https://www.ft.com/content/8765f0ca-1f6e-4106-bc2f-87b3e1cfce93?accessToken=zwAAAXNtM7jlkdOHZFdkH25BBtO8L4ez4c_Okw.MEUCIFumlOsewvMOsFEpt1MGfH-KGmrRyZu1jrPprLQpRf8LAIeA451cC2LuwV82pzqnrpEyAl8t5Cghr2nn8clz3c3P3M4&sharetype=gift?token=acd78278-3fe1-4c21-a066-3af8bc2c3e68) (Halliburton posts huge loss)

<https://www.cnbc.com/2020/07/20/chevron-to-buy-noble-energy-in-a-5-billion-deal.html> (Chevron to buy Noble Energy)

<https://www.houstonchronicle.com/business/energy/article/Banks-sell-off-energy-loans-cut-credit-lines-to-15423228.php#photo-19625428> (banks stop lending to oil and gas companies)

<https://www.nytimes.com/2020/07/20/business/energy-environment/chevron-noble-oil-mergers.html?searchResultPosition=1> (Does Chevron/Noble merger signal a new wave of consolidation?)

<https://www.ft.com/content/f00221cc-4e22-4836-bfd2-81f4f1e824b5?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (fifth big oil company files for bankruptcy)

[https://www.eenews.net/climatewire/2020/08/05/stories/1063684897?utm\\_medium=email&utm\\_source=eenews%3Aclimatewire&utm\\_campaign=edition%2B4U78umwxJQjuR7yJ6VKUMA%3D%3D](https://www.eenews.net/climatewire/2020/08/05/stories/1063684897?utm_medium=email&utm_source=eenews%3Aclimatewire&utm_campaign=edition%2B4U78umwxJQjuR7yJ6VKUMA%3D%3D) (BP shift away from oil toward renewables. Will this become an industry wide trend?)

[https://www.ft.com/content/be5db90e-a6e9-40a0-995e-5eddbd814d07?accessToken=zwAAAXO\\_cP2AkdO-XbkOpulAoNOZXI7dvYFNbw.MEUCIGEY1MkbzCuynt0fOy1RzOovG46qL7MTKxfkZxwyDG0vAiEAYk2m2ZFiFMtoJc8xrxau24j092QA9K9FZhc\\_imFUGLg&sharetype=gift?token=b4dad8ca-3c17-4109-9116-21f03cfe7192](https://www.ft.com/content/be5db90e-a6e9-40a0-995e-5eddbd814d07?accessToken=zwAAAXO_cP2AkdO-XbkOpulAoNOZXI7dvYFNbw.MEUCIGEY1MkbzCuynt0fOy1RzOovG46qL7MTKxfkZxwyDG0vAiEAYk2m2ZFiFMtoJc8xrxau24j092QA9K9FZhc_imFUGLg&sharetype=gift?token=b4dad8ca-3c17-4109-9116-21f03cfe7192) (US oilfield services sector shifts overseas)

## 2. Spindletop, oil and natural gas

[https://www.houstonchronicle.com/business/energy/article/As-Lopez-Obrador-focuses-on-oil-U-S-natural-gas-14885477.php?utm\\_source=desktop&utm\\_medium=collection&utm\\_campaign=hcpromotop](https://www.houstonchronicle.com/business/energy/article/As-Lopez-Obrador-focuses-on-oil-U-S-natural-gas-14885477.php?utm_source=desktop&utm_medium=collection&utm_campaign=hcpromotop) (Mexico backtracks on energy liberalization but buys more US natural gas)

<https://www.nytimes.com/2020/02/12/climate/blackrock-oil-sands-alberta-financing.html?searchResultPosition=1> (banks yank funding for Canadian oil sands projects)

<https://www.ft.com/content/76c15898-52a2-11ea-90ad-25e377c0ee1f?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (shale bankruptcies likely to rise because of heavy debt)

<https://www.nytimes.com/2018/12/03/us/oil-drilling-arctic-national-wildlife-refuge.html> (should we drill in the Arctic National Wildlife Reserve?)

<https://www.wsj.com/articles/brexit-or-not-britains-oil-and-gas-business-is-booming-11544614742?mod=searchresults&page=1&pos=2> (investment in UK oil industry booms despite Brexit uncertainty)

<https://www.wsj.com/articles/in-booming-oilfield-natural-gas-can-be-free-11545906601?mod=searchresults&page=1&pos=4> (Some Permian drillers giving away natural gas)

<https://www.ft.com/content/6f8f334e-0ebd-11e9-a3aa-118c761d2745> (flaring wastes a valuable resource and lights up the sky)

<https://www.bizjournals.com/houston/news/2019/01/08/bp-gives-go-ahead-to-1-3-billion-gulf-of-mexico.html?surround=etf&u=24733936624e1f7868411a5ef8929b&t=1547055657&j=85928151> (BP to make major investment in Gulf of Mexico)

<https://www.houstonchronicle.com/business/energy/article/Report-Texas-crude-oil-production-breaks-1970s-13606658.php#photo-3594633> (Texas produced record amount of oil in 2018)

<https://www.mrt.com/business/oil/article/PSP-Permian-to-become-fourth-largest-oil-13650490.php> (Permian projected to produce 6 million bbd by 2025)

<https://www.houstonchronicle.com/business/energy/article/Natural-gas-is-more-popular-than-ever-for-power-13718710.php#photo-13860828> (natural gas consumption up 10 percent in 2018)

<https://www.ingaa.org/Foundation/FDNreports/Flagship2019.aspx> (how natural gas can reduce carbon emissions)

### 3. The shale revolution: an energy game changer?

<https://www.wsj.com/articles/energy-producers-new-years-resolution-pay-the-tab-for-the-shale-drilling-bonanza-11577880001> (huge debt coming due for frackers)

[https://www.wsj.com/articles/banks-get-tough-on-shale-loans-as-fracking-forecasts-founder-11577010600?shareToken=steb6b78f195b248f8ba981e63d67ba5c1&reflink=article\\_email\\_share](https://www.wsj.com/articles/banks-get-tough-on-shale-loans-as-fracking-forecasts-founder-11577010600?shareToken=steb6b78f195b248f8ba981e63d67ba5c1&reflink=article_email_share) (banks get tough on shale loans)

<https://www.nytimes.com/2020/01/27/us/politics/pennsylvania-democrats-fracking.html?searchResultPosition=1> (Democratic presidential candidates backing a fracking ban may have a hard time winning Pennsylvania)

<https://pennbizreport.com/news/15482-study-funded-in-part-by-pa-dep-finds-no-evidence-fracking-waste-harming-pennsylvania-streams/> (new study from NAS finds no evidence that fracking contaminates streams in Pennsylvania)

<https://www.wsj.com/articles/covid-19-makes-oil-markets-sweat-11583856025?mod=searchresults&page=1&pos=1> (can the shale guys survive Covid-19 and the Russia-Saudi price war?)

[https://www.ft.com/content/0bcc8d30-f074-4d03-9de3-266ae1eef9ee?mkt\\_tok=eyJpIjoiWldZNE5HSmlPRFV5TTJZMilsInQiOiJSeWV4SjU4ZzdBem5NS2U5dmxRczR2R09IRFRORkMrb2ZMZ1ZXWGdZcHRtWXI1a3FLdTNFc1hcl1hDNTVDQ3gyenJHRUdtZUIZRXYd09nNVdva05PMG12XC9pZVdLdnYxMWFhSWWhTV3lZTjg4d084TVBCZm1hUjA3STZVR3RqWHc5In0%3D](https://www.ft.com/content/0bcc8d30-f074-4d03-9de3-266ae1eef9ee?mkt_tok=eyJpIjoiWldZNE5HSmlPRFV5TTJZMilsInQiOiJSeWV4SjU4ZzdBem5NS2U5dmxRczR2R09IRFRORkMrb2ZMZ1ZXWGdZcHRtWXI1a3FLdTNFc1hcl1hDNTVDQ3gyenJHRUdtZUIZRXYd09nNVdva05PMG12XC9pZVdLdnYxMWFhSWWhTV3lZTjg4d084TVBCZm1hUjA3STZVR3RqWHc5In0%3D) (drop in fracking will reduce flaring 50% in Permian Basin)

<https://www.ft.com/content/bf230420-a570-4fcb-a2cf-3c38b5429b6f?desktop=true&segmentId=fe4987a4-0d36-0eb5-d88f-99ac7b30c569#myft:notification:weekly-email:content> (The rise and fall of Chesapeake Energy)

<https://www.economist.com/business/2020/07/04/how-chesapeake-energy-changed-the-world> (another piece on the rise and fall of Chesapeake)

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#### **THESE READINGS ARE OPTIONAL:**

[https://www.wsj.com/articles/big-fracking-profits-at-50-a-barrel-dont-bet-on-it-1543919401?mod=hp\\_lista\\_pos1](https://www.wsj.com/articles/big-fracking-profits-at-50-a-barrel-dont-bet-on-it-1543919401?mod=hp_lista_pos1) (can frackers make money at \$50?)

<https://www.ft.com/content/d4a8c0ea-f8ad-11e8-8b7c-6fa24bd5409c?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (will the increase in shale oil bump up against a refinery wall?)

<https://www.wsj.com/articles/frackings-secret-problemoil-wells-arent-producing-as-much-as-forecast-11546450162?mod=djemalertNEWS> (productivity of fracked wells not as high as predicted)

[https://www.iea.org/newsroom/news/2019/january/could-tight-oil-go-global.html?utm\\_campaign=IEA%20newsletters&utm\\_source=SendGrid&utm\\_medium=Email](https://www.iea.org/newsroom/news/2019/january/could-tight-oil-go-global.html?utm_campaign=IEA%20newsletters&utm_source=SendGrid&utm_medium=Email) (will shale/fracking go global?)

<https://www.eenews.net/energywire/2019/03/06/full> (Colorado continues to fight fracking)

<https://www.ft.com/content/5229d8aa-3f4f-11e9-9bee-efab61506f44?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft.notification:daily-email:content> (Chevron and Exxon to invest heavily in the Permian Basin)

<https://www.ft.com/content/e6b90500-4011-11e9-9bee-efab61506f44?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft.notification:daily-email:content> (Big Oil is becoming Big Shale)

<https://www.nytimes.com/2019/03/08/world/asia/china-shale-gas-fracking.html> (China is having a fracking boom)

<https://www.ft.com/content/73acb030-537f-11e9-91f9-b6515a54c5b1?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft.notification:daily-email:content> (gas selling at negative prices in the Permian)

<https://www.chron.com/business/energy/article/Permian-Basin-water-disposal-volumes-expected-to-13765666.php> (need to recycle Permian waste water)

<https://www.nytimes.com/2019/04/29/business/britain-fracking-resignation.html?searchResultPosition=1> (prospects for fracking in the UK diminish)

<https://www.wsj.com/articles/frackers-scrounge-for-cash-as-wall-street-closes-doors-11559915320> (frackers looking elsewhere for cash)

<https://www.thestreet.com/markets/the-u-s-is-setting-the-price-for-natural-gas-around-the-world-14991586> (Henry Hub is becoming the benchmark for global gas trading)

<https://www.wsj.com/articles/a-leader-of-americas-fracking-boom-has-second-thoughts-11561388670?mod=searchresults&page=1&pos=2> (Pioneer shifts to a lower gear to generate positive cash flow)

<https://www.wsj.com/articles/a-fracking-experiment-fails-to-pump-as-predicted-11562232601?mod=searchresults&page=1&pos=1> (large scale fracking experiment disappoints)

<https://www.wsj.com/articles/its-not-too-late-for-new-york-to-start-fracking-11562970236> (will New York State ever permit fracking?)

<https://www.nationalreview.com/2019/07/colorados-anti-fracking-law-illustrates-the-states-growing-divide/> (Colorado institutes severe restrictions on fracking)

<https://www.dallasnews.com/news/science-medicine/2019/07/25/wastewater-injection-can-make-faults-twice-likely-fail-quake-study-says> (fracking, injection wells, and earthquakes)

#### 4. The future of coal and nuclear power

<https://www.wsj.com/articles/nuclear-power-a-low-carbon-energy-source-is-shunned-by-the-west-11575906570?mod=searchresults&page=1&pos=3>

<https://www.nytimes.com/2019/12/11/world/europe/eu-climate-plan-coal.html?searchResultPosition=1> (proposal to pay EU members to ditch coal)

[https://www.wsj.com/articles/in-tougher-times-china-falls-back-on-coal-11577115096?shareToken=st1142b0d7b39840f68d576cfc7c34b8ea&reflink=article\\_email\\_share](https://www.wsj.com/articles/in-tougher-times-china-falls-back-on-coal-11577115096?shareToken=st1142b0d7b39840f68d576cfc7c34b8ea&reflink=article_email_share) (coal use climbing in China despite lip service to reducing GHGs)

<https://www.nytimes.com/2020/01/16/climate/germany-coal-climate-change.html?searchResultPosition=1> (quitting coal will be expensive for Germany)

<https://www.eenews.net/energywire/2020/01/22/stories/1062144851> (court battle looming over coal export terminal in the state of Washington)

<https://www.nucnet.org/news/china-keen-to-match-pace-set-by-russia-in-overseas-construction-1-4-2020> (China and Russia forge ahead with overseas nuclear power plant construction)

[https://www.bbc.com/news/business-51233444?fbclid=IwAR1lZdAFWYWw7ukv4nQMXBUB-j7Jj8NenNKncz9Ly\\_5nNULEKrlFfnlq8R0](https://www.bbc.com/news/business-51233444?fbclid=IwAR1lZdAFWYWw7ukv4nQMXBUB-j7Jj8NenNKncz9Ly_5nNULEKrlFfnlq8R0) (Rolls Royce plans to build small nuclear power plants)

<https://www.wsj.com/articles/wyoming-makes-a-case-for-coal-11581782401?mod=searchresults&page=1&pos=1> (Wyoming tries to save its coal industry)

[https://www.wsj.com/articles/an-antitrust-attack-on-coal-11583078559?mod=opinion\\_major\\_pos1](https://www.wsj.com/articles/an-antitrust-attack-on-coal-11583078559?mod=opinion_major_pos1) (will anti-trust regulators kill the coal industry?)

<https://www.wsj.com/articles/coal-supplier-foresight-energy-files-for-bankruptcy-citing-coronavirus-11583847199?mod=searchresults&page=1&pos=2> (another coal company bites the dust—citing Covid 19)

[https://morningconsult.com/2020/04/23/doe-nuclear-energy-report-climate-national-security/?mkt\\_tok=eyJpIjoiWkdRell6VTJaVGxtTUdRdyIsInQiOiRtMHVzNVVWVYelR4RmhxeDdud3JNN0x0blhVQWtsWXZ0bjV1OFJQY0I0VktmdGRjM2RrS1BvNTUxMFF0bHdFNFA4ZXBoTE1jYUJ2RFBIUitcL1pqaUZqVkJHUGNjYjRvSEc1VDNQT2NmS21vRG9tdFFTejBwNnIFOHQ5aExPaWYifQ%3D%3D](https://morningconsult.com/2020/04/23/doe-nuclear-energy-report-climate-national-security/?mkt_tok=eyJpIjoiWkdRell6VTJaVGxtTUdRdyIsInQiOiRtMHVzNVVWVYelR4RmhxeDdud3JNN0x0blhVQWtsWXZ0bjV1OFJQY0I0VktmdGRjM2RrS1BvNTUxMFF0bHdFNFA4ZXBoTE1jYUJ2RFBIUitcL1pqaUZqVkJHUGNjYjRvSEc1VDNQT2NmS21vRG9tdFFTejBwNnIFOHQ5aExPaWYifQ%3D%3D) (Trump administration plan to revive nuclear power industry)

<https://www.wsj.com/articles/coal-suffers-as-coronavirus-saps-power-demand-11587642652?mod=searchresults&page=1&pos=1> (COVID-19 accelerates the decline of coal in power generation)

<https://apnews.com/41b32c474b9aa75bf4261bdac1816e22> (Indian Point #1 shuts down)

<https://www.eenews.net/climatewire/2020/05/11/stories/1063101975> (largest coal plants currently operating in the U.S.)

<https://www.economist.com/china/2020/05/21/a-glut-of-new-coal-fired-power-stations-endangers-chinas-green-ambitions> (China keeps investing in coal)

<https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/060920-monitor-sees-vogtle-nuke-missing-in-service-dates-exceeding-cost-projections> (Vogtle plant behind schedule and way over budget)

[https://www.eenews.net/climatewire/2020/06/09/stories/1063354565?utm\\_medium=email&utm\\_source=eenews%3Aclimatewire&utm\\_campaign=edition%2B4U78umwxJQjuR7yJ6VKUMA%3D%3D](https://www.eenews.net/climatewire/2020/06/09/stories/1063354565?utm_medium=email&utm_source=eenews%3Aclimatewire&utm_campaign=edition%2B4U78umwxJQjuR7yJ6VKUMA%3D%3D) (China permits record number of new coal plants)

[https://www.eenews.net/energywire/2020/06/24/stories/1063442773?utm\\_medium=email&utm\\_source=eenews%3Aenergywire&utm\\_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D](https://www.eenews.net/energywire/2020/06/24/stories/1063442773?utm_medium=email&utm_source=eenews%3Aenergywire&utm_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D) (what will happen to thousands of laid off US coal workers?)

[https://www.eenews.net/climatewire/2020/07/02/stories/1063491727?utm\\_medium=email&utm\\_source=eenews%3Aclimatewire&utm\\_campaign=edition%2B4U78umwxJQjuR7yJ6VKUMA%3D%3D](https://www.eenews.net/climatewire/2020/07/02/stories/1063491727?utm_medium=email&utm_source=eenews%3Aclimatewire&utm_campaign=edition%2B4U78umwxJQjuR7yJ6VKUMA%3D%3D) (Britain to close last coal plant)

<https://www.economist.com/the-world-if/2020/07/04/what-if-nuclear-power-had-taken-off-in-the-1970s> (an alternate world in which nuclear power is dominant)

[https://www.eenews.net/energywire/2020/07/29/stories/1063640735?utm\\_medium=email&utm\\_source=eenews%3Aenergywire&utm\\_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D](https://www.eenews.net/energywire/2020/07/29/stories/1063640735?utm_medium=email&utm_source=eenews%3Aenergywire&utm_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D) (can nuclear plants be repurposed to manufacture hydrogen?)

[https://www.eenews.net/energywire/2020/07/29/stories/1063646125?utm\\_medium=email&utm\\_source=eenews%3Aenergywire&utm\\_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D](https://www.eenews.net/energywire/2020/07/29/stories/1063646125?utm_medium=email&utm_source=eenews%3Aenergywire&utm_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D) (New Mexico hopes to keep coal plant alive through carbon capture)

<https://www.wsj.com/articles/emission-costs-jump-in-europe-hastening-coals-demise-11595926552?mod=searchresults&page=1&pos=2> (rising cost of carbon hastens demise of European coal generation)

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**THESE READINGS ARE OPTIONAL:**

<https://www.nytimes.com/2018/12/04/world/europe/poland-coal-un.html> (Poland loves coal!)

<https://www.nytimes.com/2018/12/24/business/germany-closes-its-last-black-coal-mine.html> (Germany closes last coal mine)

<https://www.wsj.com/articles/miners-cut-back-in-largest-u-s-coal-region-11546264800?mod=searchresults&page=1&pos=4> (coal output falls in Powder River Basin)

<https://www.wsj.com/articles/energy-department-initiative-aims-to-keep-u-s-competitive-on-nuclear-plant-fuel-11546893816> (maybe nuclear has a future in the U.S. after all)

<https://www.thisdaylive.com/index.php/2019/01/08/rosatom-nigerias-nuclear-technologies-pact-with-russia-comprehensive/> (Russia to build nuclear plants in Nigeria)

<https://www.nytimes.com/2019/01/07/business/energy-environment/wales-hitachi-nuclear-plant-jobs.html> (Wales decides to go nuclear)

<https://www.nytimes.com/2019/01/29/climate/china-coal-climate-change.html> (China continues to build coal plants despite pledges to reduce CO2 and methane emissions)

<https://www.dw.com/en/germany-to-stop-using-coal-by-end-of-2038/a-47244572?maca=en-EMail-sharing> (Germany plans to shut all coal plants by 2038 and remaining nuclear plants by 2022)

<https://www.politico.com/story/2019/02/11/trump-coal-1163128> (Trump tries to save ageing coal plant operated by TVA)

[https://www.powermag.com/alabama-power-will-close-century-old-coal-plant/?mkt\\_tok=eyJpIjoiTVdJM1UUbGtOMk0wT1dabSIsInQiOiIzeEiUWml5Wit2aVZjWWNmduVsNExsckQ5K1VpQnpaNFFXcWI5Y01wQ2tZOEduVUQ2XC9WZnQ4STg1aHJD Tkx2N3NjckRRMEI4cUNjQTBVSFJkUktJV1d0MjRjJcEITdFM0aVAxN2xHY2pBbEU4T3lhTjNcL0hXaEpDZjFSSEpoeUZwln0%3D](https://www.powermag.com/alabama-power-will-close-century-old-coal-plant/?mkt_tok=eyJpIjoiTVdJM1UUbGtOMk0wT1dabSIsInQiOiIzeEiUWml5Wit2aVZjWWNmduVsNExsckQ5K1VpQnpaNFFXcWI5Y01wQ2tZOEduVUQ2XC9WZnQ4STg1aHJD Tkx2N3NjckRRMEI4cUNjQTBVSFJkUktJV1d0MjRjJcEITdFM0aVAxN2xHY2pBbEU4T3lhTjNcL0hXaEpDZjFSSEpoeUZwln0%3D) (Alabama Power closes another coal plant because of high compliance costs with government regulations)

<https://www.theguardian.com/australia-news/2019/mar/06/deal-huge-coal-fired-power-plant-hunter-hong-kong> (Australia builds new coal plants)

[https://www.washingtonpost.com/climate-environment/2019/03/26/blow-climate-coal-plants-emitted-more-than-ever/?utm\\_term=.ca5fb3983329](https://www.washingtonpost.com/climate-environment/2019/03/26/blow-climate-coal-plants-emitted-more-than-ever/?utm_term=.ca5fb3983329) (CO2 emission rose in 2018 led by coal)

<https://news.gallup.com/poll/248048/years-three-mile-island-americans-split-nuclear-power.aspx> (Americans are evenly split over nuclear power)

<https://www.reviewjournal.com/news/politics-and-government/nevada-house-democrats-draw-lines-on-plutonium-yucca-1631187/> (will the Democratic House kill Yucca mountain for good?)

<https://www.wsj.com/articles/a-chill-descends-on-the-coal-market-11554894950> (exports of US coal fall while domestic demand shrinks)

<https://www.wsj.com/articles/nuclear-bailout-bills-in-pennsylvania-ohio-take-heat-over-cost-11556535601> (Pennsylvania and Ohio consider subsidies to keep nuclear plants open)



<https://apnews.com/6216f574e15546ab877353e924d70dea> (Exelon to shut down Three Mile Island)

[https://www.iea.org/publications/nuclear/?utm\\_campaign=IEA%20newsletters&utm\\_source=SendGrid&utm\\_medium=Email](https://www.iea.org/publications/nuclear/?utm_campaign=IEA%20newsletters&utm_source=SendGrid&utm_medium=Email) (nuclear must be part of a clean energy future)

<https://www.forbes.com/sites/michaelshellenberger/2019/06/06/why-hbos-chernobyl-gets-nuclear-so-wrong/#160f8698632f> (reaction to the mini-series “Chernobyl”)

<https://www.apnews.com/94dd16cd02f04381bd588cf87d8da989> (should Ohio taxpayers subsidize two nuclear plants at a cost of \$1 billion?)

<https://www.nytimes.com/2019/08/15/climate/coal-adani-india-australia.html> (coal will be around a long time)

<https://www.investors.com/politics/commentary/coal-is-dead-long-live-king-coal/> (long live King Coal)

<https://www.wsj.com/articles/navajo-nation-to-buy-cloud-peak-coal-mines-out-of-bankruptcy-11566238682?mod=searchresults&page=1&pos=1> (Navaho company buys bankrupt coal company)

## 5. Electricity and the transmission grid

<https://www.eenews.net/energywire/stories/1061787851/print> (grid congestion in the Midwest from too much renewable power)

<https://www.eenews.net/energywire/2020/01/16/stories/1062091889> (more renewable energy will require more high-voltage transmission lines)

<https://www.eenews.net/energywire/2020/01/27/stories/1062188485> (more on grid congestion)

<https://www.eenews.net/energywire/2020/04/24/full> (threats to the power grid from pandemic and cyber attacks)

<https://www.eenews.net/energywire/2020/05/08/stories/1063076375> (here’s a case where low demand can affect grid integrity, especially when lots of solar and wind are on the network)

<https://thehill.com/opinion/energy-environment/496822-competitive-power-markets-can-help-the-economy-recover-from-the> (commentary by B. Weinstein)

[https://www.realclearenergy.org/articles/2020/06/01/in\\_new\\_york\\_and\\_new\\_england\\_wind\\_energy\\_projects\\_are\\_like\\_siting\\_landfills\\_nobody\\_wants\\_them\\_494945.html](https://www.realclearenergy.org/articles/2020/06/01/in_new_york_and_new_england_wind_energy_projects_are_like_siting_landfills_nobody_wants_them_494945.html) (does it make sense to invest heavily in wind in New York State?)

<https://www.wsj.com/articles/electricity-looking-hot-hot-hot-in-texas-11592218800?mod=searchresults&page=1&pos=1> (the unique Texas power market)

<https://thehill.com/opinion/energy-environment/503006-we-still-need-coal-to-ensure-power-grid-reliability> (the continuing importance of coal in power generation—commentary by B. Weinstein)

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**THESE READINGS ARE OPTIONAL:**

[https://www.powermag.com/colstrip-power-plant-threatened-by-westmoreland-bankruptcy/?mkt\\_tok=eyJpIjoiWTJZMlpUUmhOemd5TIRkayIsInQiOiI5NTRkbjUrcWI3YkdUVHhZ6NUxNQXh0alhlMjJQRFBSTkFQbUZVZ2RjYTJ4M0xia1dWdnc0djJMcfhoTmlobE8zVTFzeFlkbUduVXNvcFBtZThXV3dra0Z5Vm9Ua25rU0JxZmRidzBHekN3Qzc4S1gxR2hIVk9NVXFCQ2c5MHlyWCJ9](https://www.powermag.com/colstrip-power-plant-threatened-by-westmoreland-bankruptcy/?mkt_tok=eyJpIjoiWTJZMlpUUmhOemd5TIRkayIsInQiOiI5NTRkbjUrcWI3YkdUVHhZ6NUxNQXh0alhlMjJQRFBSTkFQbUZVZ2RjYTJ4M0xia1dWdnc0djJMcfhoTmlobE8zVTFzeFlkbUduVXNvcFBtZThXV3dra0Z5Vm9Ua25rU0JxZmRidzBHekN3Qzc4S1gxR2hIVk9NVXFCQ2c5MHlyWCJ9) (coal company bankruptcies may affect power generation)

<https://www.wsj.com/articles/the-green-new-deals-impossible-electric-grid-11550705997?mod=searchresults&page=1&pos=1> (New Green Deal can't supply the power grid)

[https://www.powermag.com/ercot-warns-of-intensified-summer-supply-crunch/?mkt\\_tok=eyJpIjoiWXpoaFlqRTFOaikyT0RBMylsInQiOiI0cU1oWGFodStkT09vWmhtNElhV0ZKNXJiMkwzWkcyN3lyTTM3TTNDUUUt6YVhkaTJXSWVvTEF1MVwvMVNTeGFwTHllbFF6VWRUUVGwrdUJkZCtRnpxYW1RTnl3Tmx2MlwwSWZmbnZSaFIENWZQdkZJVmhLRFVYbVnKWTNVMVE5akJlIn0%3D](https://www.powermag.com/ercot-warns-of-intensified-summer-supply-crunch/?mkt_tok=eyJpIjoiWXpoaFlqRTFOaikyT0RBMylsInQiOiI0cU1oWGFodStkT09vWmhtNElhV0ZKNXJiMkwzWkcyN3lyTTM3TTNDUUUt6YVhkaTJXSWVvTEF1MVwvMVNTeGFwTHllbFF6VWRUUVGwrdUJkZCtRnpxYW1RTnl3Tmx2MlwwSWZmbnZSaFIENWZQdkZJVmhLRFVYbVnKWTNVMVE5akJlIn0%3D) (ERCOT finally admits likely shortage of power generation)

<https://www.eenews.net/greenwire/2019/03/01/full> (like pipelines, some new power lines are being challenged)

[https://www.wsj.com/articles/extension-cord-to-carry-green-power-from-midwest-to-east-11552275900?shareToken=sta9f00eb3681a4099b21912f18a00058c&reflink=article\\_email\\_share](https://www.wsj.com/articles/extension-cord-to-carry-green-power-from-midwest-to-east-11552275900?shareToken=sta9f00eb3681a4099b21912f18a00058c&reflink=article_email_share) (new power lines to bring “green” energy to Chicago area)

<https://www.eenews.net/energywire/2019/05/09/stories/1060299499> (summer 2019 power outlook guarded in Texas with a lower reserve margin)

<https://www.nytimes.com/2019/05/01/opinion/climate-change-gas-electricity.html> (an all electric future?)

[https://www.wsj.com/articles/building-the-wind-turbines-was-easy-the-hard-part-was-plugging-them-in-11561176010?mod=hp\\_lead\\_pos5](https://www.wsj.com/articles/building-the-wind-turbines-was-easy-the-hard-part-was-plugging-them-in-11561176010?mod=hp_lead_pos5) (roadblocks to building new transmission lines)

<https://www.nytimes.com/2019/07/07/business/energy-environment/florida-solar-power.html> (why is “sunny” Florida lagging in solar installations?)

<https://www.nytimes.com/interactive/2018/12/24/climate/how-electricity-generation-changed-in-your-state.html> (changing power mix state-by-state)

<https://www.eenews.net/energywire/2019/07/22/stories/1060771407> (summer heat wave stresses power grids all over America)

<https://www.reuters.com/article/us-europe-power-supply-insight/does-renewables-pioneer-germany-risk-running-out-of-power-idUSKCN1UD0GZ> (will Germany run out of power by closing its coal and nuclear plants?)

<https://www.wsj.com/articles/cuomos-power-outage-portent-11563838386> (why the power grids in New York and New England are vulnerable)

<https://www.houstonchronicle.com/opinion/outlook/article/Renewable-energy-can-t-keep-Texans-A-C-14103550.php> (Weinstein on vulnerabilities of the Texas power grid)

[https://www.houstonchronicle.com/business/energy/article/A-May-price-spike-shows-vulnerability-of-power-14188257.php?utm\\_campaign=CMS%20Sharing%20Tools%20\(Premium\)&utm\\_source=share-by-email&utm\\_medium=email](https://www.houstonchronicle.com/business/energy/article/A-May-price-spike-shows-vulnerability-of-power-14188257.php?utm_campaign=CMS%20Sharing%20Tools%20(Premium)&utm_source=share-by-email&utm_medium=email) (gaming the wholesale power market in Texas)

<https://www.wsj.com/articles/wood-pellets-draw-fire-as-alternative-to-coal-11565175605?mod=searchresults&page=1&pos=1> (burning wood pellets for power generation releases more carbon than coal or natural gas)

<https://www.dallasnews.com/business/energy/2019/08/14/texas-need-build-power-plants-states-electricity-use-puts-focus-record-demand> (does Texas need a capacity charge?)

## 6. Renewables, “green” energy, and electric vehicles

<https://www.economist.com/business/2019/11/28/supplying-clean-power-is-easier-than-storing-it>

<https://www.wsj.com/articles/car-makers-rushing-to-copy-tesla-lack-one-thing-buyers-11575647982?mod=searchresults&page=1&pos=5>

<https://www.wsj.com/articles/dominion-energy-turns-to-cow-manure-in-gas-pact-11576063800?mod=searchresults&page=1&pos=1> (making biogas from manure)

<https://www.economist.com/briefing/2019/12/05/climate-policy-needs-negative-carbon-dioxide-emissions> (the complexity of carbon capture)

<https://www.wsj.com/articles/german-shift-from-coal-spurs-fresh-pain-11579196959?mod=searchresults&page=1&pos=1> (Germany tries to get off of coal and nuclear simultaneously)

<https://www.wsj.com/articles/microsoft-raises-stakes-in-corporate-climate-pledge-race-11579195800?mod=searchresults&page=1&pos=1> (Microsoft pledges to become carbon neutral)

<https://www.wsj.com/articles/the-best-laid-energy-plans-11579219416?mod=searchresults&page=1&pos=1> (this federally-financed renewable project went bust)

<https://www.wsj.com/articles/u-s-companies-fuel-europes-green-energy-push-11579437000?mod=searchresults&page=1&pos=2> (US companies invest heavily in European renewable energy)

<https://www.heartland.org/news-opinion/news/electric-vehicles-wont-be-cost-competitive-with-fossil-fuel-powered-vehicles-for-another-decade-mit-study-says> (electric vehicles won't be cost-competitive with gasoline for at least another decade)

<https://www.eenews.net/energywire/2020/01/24/stories/1062151633> (opposition to offshore wind farm in Maryland)

<https://www.youtube.com/watch?v=PLxPAwleL0w&feature=youtu.be> (a Tesla parody)

<https://www.ft.com/content/2b0db0aa-4b17-11ea-95a0-43d18ec715f5?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (will hydrogen become a viable alternative fuel?)

[https://m.chron.com/business/energy/article/Wind-Turbine-Blades-Can-t-Be-Recycled-So-15038864.php?utm\\_campaign=CMS%20Sharing%20Tools%20](https://m.chron.com/business/energy/article/Wind-Turbine-Blades-Can-t-Be-Recycled-So-15038864.php?utm_campaign=CMS%20Sharing%20Tools%20) (wind turbine blades can't be recycled)

<https://www.americanbanker.com/articles/climate-activists-want-former-exxon-chief-off-jpmorgans-board> (climate activists want Chase to remove former Exxon CEO from board)

<https://www.wsj.com/articles/solar-power-is-beginning-to-eclipse-fossil-fuels-11581964338?mod=searchresults&page=1&pos=2> (cheap solar power in India is challenging coal)

<https://www.wired.co.uk/article/lithium-batteries-environment-impact> (the environmental impacts of lithium battery production)

<https://www.ft.com/content/24e9abd0-62ef-11ea-b3f3-fe4680ea68b5?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (will cheap gasoline dampen the demand for electric vehicles?)

<https://www.wsj.com/articles/germanys-push-for-wind-power-encounters-resistance-11583791663?mod=searchresults&page=1&pos=1> (more pushback against wind in Germany)

<https://www.nytimes.com/2020/04/07/business/energy-environment/coronavirus-oil-wind-solar-energy.html?searchResultPosition=1> (will the collapse of oil prices accelerate the adoption of renewables?)

<https://www.eenews.net/climatewire/2020/04/21/stories/1062928361> (on some days, wind puts more power into the national grid than coal)

<https://www.wsj.com/articles/the-truck-industry-bets-on-the-other-electric-vehicle-11587547174?mod=searchresults&page=1&pos=1> (truck industry looks at hydrogen fuel cells)

<https://www.eenews.net/energywire/2020/04/24/stories/1062955175> (demand for solar panels collapses worldwide)

<https://www.nytimes.com/2020/05/13/climate/coronavirus-coal-electricity-renewables.html> (renewables expected to eclipse coal in US by end of 2020)

<https://www.economist.com/schools-brief/2020/05/23/the-worlds-energy-system-must-be-transformed-completely> (the challenges of energy transition)

<https://www.eenews.net/energywire/2020/05/27/stories/1063243287> (NY Governor proposed \$3 billion project to move hydropower from Quebec to New York City)

<https://www.wsj.com/articles/electric-car-sales-shrink-in-china-but-remain-a-government-priority-11590514874?mod=searchresults&page=1&pos=1> (EV sales fall in China despite huge subsidies)

<https://www.ft.com/content/08675019-1386-49ac-a718-031d6ab85051?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (renewable stocks outperform oil and gas investments)

<https://www.wsj.com/articles/u-s-consumed-more-renewables-than-coal-for-first-time-in-134-years-11590691919> (renewables surpass in coal in US power generation)

<https://www.nytimes.com/2020/05/27/business/hydrogen-fuel-climate-change.html?searchResultPosition=1> (using hydrogen to make pasta in Italy)

<https://www.nytimes.com/2020/06/04/climate/floating-windmills-fight-climate-change.html?searchResultPosition=3> (floating platforms for deep water wind generators)

<https://www.wsj.com/articles/trash-burning-ignites-as-worlds-waste-swells-11591786758?mod=searchresults&page=1&pos=6> (waste-to-energy grows in Asia and Europe)

[https://www.wsj.com/articles/is-hydrogen-the-new-wonder-fuel-11593170272?shareToken=st41bc180dbf7a4d09b535da8776d39af0&reflink=article\\_email\\_share](https://www.wsj.com/articles/is-hydrogen-the-new-wonder-fuel-11593170272?shareToken=st41bc180dbf7a4d09b535da8776d39af0&reflink=article_email_share) (potential and constraints of using hydrogen as a fuel)

<https://www.nytimes.com/2020/06/30/business/renewable-energy.html> (green energy makes inroads despite the pandemic)

<https://www.nytimes.com/2020/07/06/business/energy-environment/renewable-energy-natural-gas.html?searchResultPosition=4> (renewables battle natural gas)

<https://www.ft.com/content/a7901eae-411e-43d0-8103-1f3c8d3a990c?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (oil majors buy into green energy)

**THESE READINGS ARE OPTIONAL:**

<https://www.economist.com/business/2018/12/08/royal-dutch-shell-tries-to-reckon-with-climate-change> (Shell talks about climate change)

<https://www.wsj.com/articles/gm-bids-farewell-to-its-breakthrough-electric-car-1544356800?mod=searchresults&page=1&pos=1> (GM kills the Chevy Volt)

<https://www.wsj.com/articles/only-nuclear-energy-can-save-the-planet-11547225861?mod=searchresults&page=1&pos=1> (why we'll need nuclear to achieve clean energy)

<https://www.ft.com/content/269d939e-0f88-11e9-b2f2-f4c566a4fc5f> (commentary on the "energy transition")

<https://www.houstonchronicle.com/opinion/outlook/article/Don-t-write-off-the-internal-combustion-engine-13650281.php?cmpid=gsa-chron-result> (do electric vehicles really help to improve the environment?)

<http://www.startribune.com/walz-aims-for-100-percent-clean-energy-in-minnesota-by-2050/506661622/> (Minnesota governor proposes all electricity from "clean" energy by 2050)

<https://www.wsj.com/articles/the-green-new-deals-impossible-electric-grid-11550705997> (why a fully renewable power grid can't work)

<https://www.ft.com/content/9cc1cb48-4b61-11e9-bbc9-6917dce3dc62?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (conversion and competition between oil and utilities).

<https://www.economist.com/briefing/2019/04/04/chinas-plans-for-the-electrified-autonomous-and-shared-future-of-the-car> (China's push for electric vehicles)

<https://www.dallasnews.com/opinion/commentary/2019/04/20/texas-proves-booming-renewable-energy-doesnt-bring-electricity-price-armageddon> (Texas absorbs huge amounts of renewable energy without grid disruption)

<https://www.eenews.net/energywire/2019/05/13/stories/1060321953> (Midwest utilities embrace commercial solar put push back against rooftop)

<https://www.ft.com/content/c7da127c-7596-11e9-be7d-6d846537acab?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (global investment in renewables drops for second consecutive year while investment in fossil fuels is rising)

<https://www.eia.gov/todayinenergy/detail.php?id=39472> (tax credit phase out induces big jump in wind investments)

<https://www.nytimes.com/2019/05/09/climate/orsted-offshore-wind-power-climate-change.html?searchResultPosition=1> (Danish company makes big bet on US wind investment)

<https://www.ft.com/content/3a145844-82f2-11e9-b592-5fe435b57a3b?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (a novel experiment to store energy)

<https://oilprice.com/Alternative-Energy/Fuel-Cells/A-Major-Existential-Threat-Is-Arising-For-Natural-Gas.html> (will hydrogen eventually replace natural gas?)

<https://www.forbes.com/sites/michaelshellenberger/2019/06/26/why-climate-activists-threaten-endangered-species-with-extinction/#883599023aa7> (wind turbines kill bats, birds, and endangered species)

<https://www.eenews.net/energywire/2019/06/27/stories/1060661149> (challenges to offshore wind in the U.S.)

<https://www.houstonchronicle.com/opinion/outlook/article/Renewable-energy-can-t-keep-Texans-A-C-14103550.php> (Texas needs more than renewable energy)

<https://www.wsj.com/articles/if-you-want-renewable-energy-get-ready-to-dig-11565045328?mod=searchresults&page=1&pos=1> (renewable energy isn't necessarily "green")

<https://www.forbes.com/sites/danielmarkind/2019/08/12/the-nord-stream-2-pipeline-and-the-dangers-of-moving-too-rashly-toward-renewable-energy/#6ef98cd56aa0> (Germany pays the cost of embracing too much renewable energy)

<https://www.ft.com/content/93950d29-fa91-434e-8791-ee2d0d998481?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (Nearly \$80 billion of offshore wind planned for next decade in US)

## **7. Energy and the environment: policy, taxation and regulation**

<https://www.economist.com/briefing/2019/12/05/climate-policy-needs-negative-carbon-dioxide-emissions>

<https://www.nytimes.com/interactive/2019/12/12/climate/texas-methane-super-emitters.html?searchResultPosition=1> (large methane releases detected in the Permian)

<https://www.wsj.com/articles/u-n-climate-talks-end-without-agreement-11576424025?mod=searchresults&page=1&pos=2> (climate talks end without agreement)

[https://www.wsj.com/articles/idaho-needs-more-power-but-parts-of-oregon-object-11577712600?emailToken=8364d8917608698b380a7b699678cb4dF3QY34Aw0Xy0Zi79Fro8xbW4gVWHc2V3ppFsP2Eicw5jNocUG/9+J7M5YEyDKjondMsaMKnrn3MyRER8vYlrRfbv3h4PyTCAJJa+49vGqq0%3D&reflink=article\\_gmail\\_share](https://www.wsj.com/articles/idaho-needs-more-power-but-parts-of-oregon-object-11577712600?emailToken=8364d8917608698b380a7b699678cb4dF3QY34Aw0Xy0Zi79Fro8xbW4gVWHc2V3ppFsP2Eicw5jNocUG/9+J7M5YEyDKjondMsaMKnrn3MyRER8vYlrRfbv3h4PyTCAJJa+49vGqq0%3D&reflink=article_gmail_share) (enviros want more renewable energy but oppose transmission lines)

<https://www.wsj.com/articles/after-string-of-rare-cancer-cases-pennsylvania-investigates-potential-link-to-fracking-11576837802?mod=searchresults&page=1&pos=1> (is there a link between fracking and cancer?)

<https://www.nytimes.com/2020/01/05/us/bellingham-natural-gas-ban.html?searchResultPosition=1> (city in Washington State considers banning natural gas for home heating)

<https://www.dallasnews.com/opinion/commentary/2020/01/05/the-texas-railroad-commission-must-tap-the-brakes-on-oil-and-gas-production/> (should the Texas Railroad Commission limit gas production?)

<https://www.nytimes.com/2020/01/03/climate/trump-nepa-climate-change.html?searchResultPosition=1> (making life easier for pipelines and other infrastructure by removing climate change impact assessments; is this a good idea?)

<https://www.cnbc.com/2020/01/06/the-impact-of-fracking-on-us-consumers-and-local-communities.html> (should fracking be banned? A video)

<https://www.nytimes.com/2020/01/09/opinion/renewable-energy-oil-companies.html> (is Big Oil serious about battling climate change?)

<https://stateimpact.npr.org/pennsylvania/2020/01/10/study-replacing-coal-plants-with-natural-gas-cut-pollution-saved-lives/> (substituting gas for coal saves lives)

<https://www.houstonchronicle.com/business/energy/article/Texas-oil-gas-industry-breaks-tax-records-while-14974180.php> (energy production generates record tax receipts in Texas)

<https://www.wsj.com/articles/oil-producers-are-setting-billions-of-dollars-on-fire-11578652210?mod=searchresults&page=1&pos=3> (the economic and environmental costs of flaring)

<https://www.insidesources.com/exxonmobil-wins-big-in-climate-change-trial-but-future-decision-could-have-major-effect/> (commentary on climate lawsuits)

[https://www.wsj.com/articles/no-banks-dont-hold-the-key-to-climate-change-11580299203?emailToken=2f87d9d51ac97e1ce73bb524ba5da4a7iFtcmw1MWmVdLy/I EeXn6Gii/BSBVh7VfAvA5GIPcujNKfvWjcYrscBvqepb5Xnh8RMWGWiuju99f1hoCfmp9XaxOje3SHb/jB9wrS0cj4%3D&reflink=article\\_gmail\\_share](https://www.wsj.com/articles/no-banks-dont-hold-the-key-to-climate-change-11580299203?emailToken=2f87d9d51ac97e1ce73bb524ba5da4a7iFtcmw1MWmVdLy/I EeXn6Gii/BSBVh7VfAvA5GIPcujNKfvWjcYrscBvqepb5Xnh8RMWGWiuju99f1hoCfmp9XaxOje3SHb/jB9wrS0cj4%3D&reflink=article_gmail_share) (targeting banks as facilitators of climate change makes no sense)



<https://www.dallasnews.com/opinion/commentary/2020/02/09/the-zero-emissions-promise-relies-on-magic-math/> (is zero emissions achievable?)

<https://www.dallasnews.com/business/energy/2020/03/05/rice-university-professor-pokes-houstons-energy-elite-with-climate-change-warnings/> (climate risks for Houston Texas)

<https://www.nytimes.com/2020/03/13/climate/coronavirus-habits-carbon-footprint.html> (COVID-19 helps battle climate change: GIVE ME A BREAK!)

<https://www.eenews.net/climatewire/2020/06/01/stories/1063286379> (has the planet reached “peak” CO2?)

<https://vimeo.com/423114384> (“Planet of the Humans,” 2019 video with Michael Moore as executive producer)

[https://www.wsj.com/articles/wind-fire-and-the-coronavirus-11592167597?mod=opinion\\_lead\\_pos3](https://www.wsj.com/articles/wind-fire-and-the-coronavirus-11592167597?mod=opinion_lead_pos3) (because of bans on new gas-fired generation in California, PG&E is using diesel generators as backup)

<https://www.nytimes.com/2020/07/20/opinion/pipelines-clean-energy.html?searchResultPosition=1> (push against pipelines may also affect renewable projects)

<https://www.nytimes.com/2020/07/22/climate/gas-flares-premature-babies.html?searchResultPosition=2> (does proximity to flaring cause premature births?)

[https://www.eenews.net/energywire/2020/07/23/stories/1063611741?utm\\_medium=email&utm\\_source=eenews%3Aenergywire&utm\\_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D](https://www.eenews.net/energywire/2020/07/23/stories/1063611741?utm_medium=email&utm_source=eenews%3Aenergywire&utm_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D) (enviros stall one gigawatt gas plant in Virginia)

[https://insideclimatenews.org/news/23072020/extinction-rebellion-greenpeace-google-microsoft-apple-tech-oil?utm\\_source=InsideClimate+News&utm\\_campaign=f04a47d69f-&utm\\_medium=email&utm\\_term=0\\_29c928ffb5-f04a47d69f-327506973](https://insideclimatenews.org/news/23072020/extinction-rebellion-greenpeace-google-microsoft-apple-tech-oil?utm_source=InsideClimate+News&utm_campaign=f04a47d69f-&utm_medium=email&utm_term=0_29c928ffb5-f04a47d69f-327506973) (Greenpeace accuses “Big Tech” of fostering “Big Oil”)

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**THESE READINGS ARE OPTIONAL:**

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<https://www.nytimes.com/2018/12/06/climate/trump-sage-grouse-oil.html> (is this a death sentence for the sage grouse?)

<https://www.wsj.com/articles/business-climate-challenge-getting-customers-to-pay-1544011201?mod=searchresults&page=1&pos=1> (trucks will account for an increasing share of carbon emissions in the future)

<https://www.wsj.com/articles/u-s-carbon-emissions-rose-3-4-in-2018-as-economy-surged-11546978889?mod=searchresults&page=1&pos=3> (US carbon emissions increased in 2018)

<https://www.wsj.com/articles/have-we-got-a-carbon-tax-dividend-for-you-11546992477?mod=searchresults&page=1&pos=1> (a negative view on a proposed carbon tax)

<https://www.washingtonexaminer.com/opinion/op-eds/natural-gas-is-doing-far-more-than-renewables-to-clean-our-air> (growing natural gas use has pushed emissions from the power sector to a 35 year low)

[http://epaper.dallasnews.com/infinity/article\\_popover\\_share.aspx?guid=1e7335d8-2d29-49ec-ae6d-af5e3d7a0590](http://epaper.dallasnews.com/infinity/article_popover_share.aspx?guid=1e7335d8-2d29-49ec-ae6d-af5e3d7a0590) (is Trump's deregulation agenda harming the environment?)

<https://apnews.com/5c5d12bb5f9945f88b642adae07bc154> (Pennsylvania's governor pushes for a severance tax)

<https://www.bloomberg.com/news/articles/2019-02-07/chevron-pledges-alignment-with-paris-accord-but-won-t-cap-output> (Chevron pledges to reduce GHGs by 25 percent)

<https://apps.npr.org/documents/document.html?id=5731829-Ocasio-Cortez-Green-New-Deal-Resolution> (text of "New Green Deal" resolution)

<https://www.nytimes.com/2019/02/08/climate/states-global-warming.html> (states lead way in combatting climate change)

[https://www.victoriaadvocate.com/news/business/texas-oil-and-natural-gas-industry-paid-more-than-billion/article\\_ec53b0b8-3167-11e9-b776-e32523b3ef58.html](https://www.victoriaadvocate.com/news/business/texas-oil-and-natural-gas-industry-paid-more-than-billion/article_ec53b0b8-3167-11e9-b776-e32523b3ef58.html) (Texas O&G industry pays billions in taxes to the state each year)

<https://www.nytimes.com/2019/02/23/opinion/green-new-deal-climate-democrats.html> (commentary on the "green new deal")

<https://www.ft.com/content/fc462062-3ac4-11e9-b72b-2c7f526ca5d0?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (Big Oil split on a carbon tax)

<https://www.nytimes.com/2019/03/08/climate/hamburgers-cows-green-new-deal.html> (shall we ban meat to reduce GHG emissions?)

<https://www.nytimes.com/interactive/2019/04/11/magazine/climate-change-exxon-renewable-energy.html> (how Big Oil is responding to climate change)

<https://www.nytimes.com/2019/04/07/business/energy-environment/climate-change-carbon-engineering.html> (Big Oil invests in carbon removal)

<https://www.wsj.com/articles/another-carbon-tax-defeat-11555542235?mod=searchresults&page=1&pos=2> (Alberta scraps its carbon tax)

<https://www.economist.com/business/2019/05/25/a-shakespearean-guide-to-how-firms-tackle-climate-change> (the ages of “Climate Man”)

<https://www.nytimes.com/2019/06/04/climate/companies-climate-change-financial-impact.html> (climate change may affect company profitability in the near future)

<https://durangoherald.com/articles/281802-money-from-oil-gas-revenues-gushing-into-state-coffers> (oil and gas generate billions for state and local governments in New Mexico)

<https://thehill.com/policy/energy-environment/449411-house-committee-forwards-offshore-drilling-ban-near-florida-eyes> (U.S. House considers bill to ban offshore drilling)

<https://www.politico.com/story/2019/06/19/trump-coal-climate-rule-1539616> (EPA rolls out new power plant rules)

<https://www.nytimes.com/2019/06/18/nyregion/greenhouse-gases-ny.html> (New York State aims for “carbon-free” power by 2050)

<https://www.nytimes.com/2019/06/21/climate/states-climate-change.html?searchResultPosition=1> (climate change pits blue states against red states)

<https://www.nytimes.com/2019/06/26/climate/natural-gas-renewables-fight.html> (climate battle shifts to natural gas)

<https://thehill.com/opinion/energy-environment/450357-its-time-to-end-subsidies-and-put-electric-vehicles-to-the-market> (is it time to get rid of EV subsidies)

<https://www.bloomberg.com/news/articles/2019-07-17/california-s-berkeley-bans-natural-gas-in-new-buildings> (Berkeley bans new gas hookups)

<https://www.wsj.com/articles/texas-showdown-flares-up-over-natural-gas-waste-11563361201> (how to reduce flaring of associated gas in Texas?)

[https://www.houstonchronicle.com/business/energy/article/Reporter-s-Notebook-Plastic-makers-under-fire-14132348.php?utm\\_source=desktop&utm\\_medium=collection&utm\\_campaign=hcpromotop](https://www.houstonchronicle.com/business/energy/article/Reporter-s-Notebook-Plastic-makers-under-fire-14132348.php?utm_source=desktop&utm_medium=collection&utm_campaign=hcpromotop) (plastic makers attacked by enviros and regulators)

<https://thehill.com/opinion/energy-environment/454824-natural-gas-is-the-real-green-new-deal> (natural gas is helping to reduce GHGs)

## **8. Macroeconomic and community impacts of energy production**

<http://nmindepth.com/2020/01/01/carlsbad-wrestles-with-oil-gas-boom/> (saga of New Mexico boomtown)

<https://thetexan.news/texas-decade-of-booming-energy-production-powered-by-oil-gas-and-wind/> (Texas’ economic boom powered by diverse energy mix)

<https://www.wsj.com/articles/goldman-sachs-to-native-alaskans-drop-dead-11579908814?mod=searchresults&page=1&pos=1> (pullback from Arctic drilling will hurt native communities in Alaska)

<https://www.nytimes.com/2020/03/05/world/americas/guyana-elections-oil.html?searchResultPosition=1> (oil gusher in Guyana doesn't bring economic prosperity)

<https://www.nytimes.com/2020/03/13/business/energy-environment/texas-oil-prices-coronavirus.html?searchResultPosition=1> (how the 2020 oil bust is affecting communities in the Permian Basin)

<https://www.nytimes.com/2020/03/31/business/energy-environment/pennsylvania-shale-gas-fracking.html?searchResultPosition=1> (tough times in the Marcellus gas patch)

<https://www.wsj.com/articles/texas-gets-double-punch-from-coronavirus-and-oil-shock-theres-no-avoiding-this-one-11586113727?mod=searchresults&page=1&pos=2> (Texas economy feels double whammy from COV-10)

<https://www.nytimes.com/2020/04/07/world/americas/guyana-oil.html> (will oil bring prosperity to Guyana?)

[https://www.wsj.com/articles/this-is-what-it-looks-like-when-a-texas-oil-boom-busts-11594440031?mod=hp\\_lead\\_pos7](https://www.wsj.com/articles/this-is-what-it-looks-like-when-a-texas-oil-boom-busts-11594440031?mod=hp_lead_pos7) (another oil bust comes to West Texas)

<https://www.economist.com/united-states/2018/11/24/a-north-dakotan-oil-boom-city-softens> (from boom to bust to boom again in the Bakken)

<https://nypost.com/2019/01/19/blame-cuomo-for-new-yorks-coming-natural-gas-crisis/> (the consequences of New York's fracking ban)

<https://www.wsj.com/articles/cuomos-cold-weather-tax-11549325868?mod=searchresults&page=1&pos=1> (Governor's opposition to fracking and pipelines drives up power costs for New Yorkers)

<https://www.wsj.com/articles/appalachian-spring-11549586057?mod=searchresults&page=1&pos=1> (coal and natural gas boost the West Virginia economy)

<https://www.instituteforenergyresearch.org/fossil-fuels/natural-gas-moratorium-in-new-york-due-to-lack-of-gas-pipelines/> (Governor's policies lead to a gas moratorium in parts of New York)

<https://www.smu.edu/-/media/Site/Cox/CentersAndInstitutes/MaguireEnergyInstitute/The-Social-Economic-and-Environmental-Impacts-of-Rapid-Energy-Development-on-Local-Communities.pdf?la=en> (the good, the bad, and the ugly)

[https://bismarcktribune.com/bakken/north-dakota-oil-industry-maturing-study-shows/article\\_0210cfaf-bef4-5d2f-9f0b-05137df5116e.html](https://bismarcktribune.com/bakken/north-dakota-oil-industry-maturing-study-shows/article_0210cfaf-bef4-5d2f-9f0b-05137df5116e.html) (economic impact of energy industry on the state of North Dakota)

<http://wvmetronews.com/2019/03/24/gas-industry-pays-for-road-work-caused-by-industry-leader-says/> (gas industry pays for road repairs in West Virginia)

<https://www.nytimes.com/2019/03/26/business/shell-polyethylene-factory-pennsylvania.html> (energy boom helps to revive Rustbelt)

[https://www.wsj.com/articles/colorado-moves-to-regulate-drilling-after-years-of-conflict-11553864763?mod=hp\\_listb\\_pos1](https://www.wsj.com/articles/colorado-moves-to-regulate-drilling-after-years-of-conflict-11553864763?mod=hp_listb_pos1) (Colorado to regulate drilling to minimize community impacts)

<https://www.houstonchronicle.com/news/houston-texas/houston/article/Drilling-boom-in-Washington-County-raises-worries-13726927.php?cmpid=gsa-chron-result> (how a drilling boom is affecting one county in Texas)

<https://finance.yahoo.com/news/fastest-growing-u-city-scrambling-110000569.html> (Midland is America's fastest-growing city with Odessa close behind)

<https://www.nytimes.com/2019/05/12/us/mined-minds-west-virginia-coding.html?searchResultPosition=2> (coal to coding isn't working in West Virginia)

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<https://www.eenews.net/energywire/2019/05/16/stories/1060339965> (Texas to pass bill criminalizing destruction of O&G properties by protesters)

<https://www.nytimes.com/2019/07/07/us/alaska-university-budget-cuts.html?searchResultPosition=1> (lower oil and gas prices result in budget cuts at University of Alaska)

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<https://www.nytimes.com/2019/08/19/us/kentucky-coal-miners.html?searchResultPosition=1> (laid-off coal miners go on strike and disrupt coal trains)

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## 9. Transportation and pipelines

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<https://apnews.com/5b20988171086d59e1f4ba1770be363c> (a sensible approach for dealing with potential pipeline spills)

<https://www.detroitnews.com/story/news/politics/2019/12/19/what-line-5-shutdown-means-michigan-energy-enbridge/4334264002/> (shutdown of pipelines under Lake Michigan would have dire consequences for the state)

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<https://www.dallasnews.com/business/energy/2019/12/27/energy-transfer-led-pipeline-group-wants-to-nearly-double-its-pumping-in-illinois/> (plans to double pipeline capacity generate pushback)

[https://www.wsj.com/articles/in-the-green-transition-transportation-is-the-next-big-baddie-11577119404?shareToken=st90c1c72fac9f4f4db50bf66d812b795d&reflink=article\\_email\\_share](https://www.wsj.com/articles/in-the-green-transition-transportation-is-the-next-big-baddie-11577119404?shareToken=st90c1c72fac9f4f4db50bf66d812b795d&reflink=article_email_share) (transportation is the only sector where GHGs are rising in North America and Europe)

[https://www.wsj.com/articles/americas-love-affair-with-driving-takes-a-back-seat-11577183402?shareToken=st935771abd9564c95852ab98bad66701c&reflink=article\\_email\\_share](https://www.wsj.com/articles/americas-love-affair-with-driving-takes-a-back-seat-11577183402?shareToken=st935771abd9564c95852ab98bad66701c&reflink=article_email_share) (Americans are driving less)

<https://www.wsj.com/articles/report-puts-1-trillion-price-tag-on-cutting-ship-carbon-emissions-11579627855?mod=searchresults&page=1&pos=1> (reducing ship carbon emissions will be extremely expensive, more than \$1T)

<https://www.eenews.net/energywire/2020/01/30/stories/1062205107> (Energy Transfer accused of bribery in permitting for Mariner 2 pipeline in Pennsylvania)

<https://www.nytimes.com/2020/02/10/world/canada/gas-pipeline-protests.html?searchResultPosition=2> (protesting a pipeline in British Columbia)

<https://www.nytimes.com/2020/02/12/world/canada/gas-pipeline-protests.html?searchResultPosition=2> (pipeline protests cause travel delays in Canada)

[https://www.wsj.com/articles/keystone-xl-pipeline-to-be-built-with-albertas-assistance-11585663027?shareToken=sta0c5540b1baa45ed9a3cf0204eb883f8&reflink=article\\_email\\_share](https://www.wsj.com/articles/keystone-xl-pipeline-to-be-built-with-albertas-assistance-11585663027?shareToken=sta0c5540b1baa45ed9a3cf0204eb883f8&reflink=article_email_share) (Keystone XL to move forward with help from Alberta)

<https://abcnews.go.com/Health/wireStory/court-denies-request-revive-us-pipeline-permit-program-70937765> (federal court ruling may halt 70 pipeline projects, including XL)

<https://www.nytimes.com/2020/06/01/climate/trump-clean-water-pipelines.html?searchResultPosition=1> (EPA limits state jurisdiction over pipelines and other infrastructure)

[https://www.houstonchronicle.com/news/investigations/article/A-pipeline-poisons-the-wells-in-Hill-Country-15371071.php?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=HC\\_Daily\\_Headlines&utm\\_term=news&utm\\_content=headlines](https://www.houstonchronicle.com/news/investigations/article/A-pipeline-poisons-the-wells-in-Hill-Country-15371071.php?utm_source=newsletter&utm_medium=email&utm_campaign=HC_Daily_Headlines&utm_term=news&utm_content=headlines) (small pipeline spill in Texas Hill Country pollutes some wells)

<https://finance.yahoo.com/news/demise-gas-project-shows-u-113000532.html> (life gets more difficult for pipeline companies)

<https://www.ft.com/content/b8027937-43e9-4aeb-8e29-99fcb10d8a49?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (tough sledding for pipelines)

<https://www.wsj.com/articles/companies-cancel-atlantic-coast-pipeline-after-years-of-delays-11593975601> (\$8 billion Atlantic Coast Pipeline is canceled)

<https://www.nytimes.com/2020/07/08/climate/dakota-access-keystone-atlantic-pipelines.html?searchResultPosition=1> (is this the “end of pipelines?”)

<https://finance.yahoo.com/news/one-time-heart-shale-may-004058748.html> (DAPL shutdown may kill the Bakken)

<https://www.ft.com/content/95fd37f1-d8cc-4319-af8b-0946949abd20?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (pipelines are clean energy)

[https://www.eenews.net/energywire/2020/07/14/stories/1063559127?utm\\_medium=email&utm\\_source=eenews%3Aenergywire&utm\\_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D](https://www.eenews.net/energywire/2020/07/14/stories/1063559127?utm_medium=email&utm_source=eenews%3Aenergywire&utm_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D) (big battles ahead for pipelines)

<https://www.nytimes.com/2020/07/15/climate/trump-environment-nepa.html?searchResultPosition=2> (Trump administration makes regulatory changes to accelerate infrastructure investments, including pipelines)

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**THESE READINGS ARE OPTIONAL:**

<https://www.ft.com/content/fc359642-e818-11e8-8a85-04b8afea6ea3?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (Nord Stream 2 nears completion)

<https://www.chron.com/business/energy/article/Moda-Midstream-loads-first-supertanker-at-Port-of-13481997.php#photo-16674322> (first VLCC supertanker arrives at Corpus Christi)

[https://www.washingtonpost.com/local/virginia-politics/as-court-challenges-pile-up-gas-pipeline-falls-behind/2018/12/29/8637dbd2-0549-11e9-b5df-5d3874f1ac36\\_story.html?utm\\_term=.63b1e4f29462](https://www.washingtonpost.com/local/virginia-politics/as-court-challenges-pile-up-gas-pipeline-falls-behind/2018/12/29/8637dbd2-0549-11e9-b5df-5d3874f1ac36_story.html?utm_term=.63b1e4f29462) (Atlantic Coast Pipeline faces legal hurdles)

<http://www.baltimoresun.com/news/maryland/politics/bs-md-dpw-pipeline-20190102-story.html> (Maryland votes to ban a pipeline carrying fracked gas from Pennsylvania)

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<https://www.forbes.com/sites/judeclemente/2019/01/27/america-needs-more-oil-and-natural-gas-pipelines/#254b75dd452c> (why America needs more oil and gas pipelines)

<https://www.wsj.com/articles/oil-trains-make-comeback-as-pipeline-bottlenecks-worsen-11548930600?mod=searchresults&page=1&pos=2> (more oil is moving by rail due to lack of pipeline capacity)

<https://www.chron.com/business/energy/article/Permian-Basin-to-Corpus-Christi-pipelines-get-13598295.php> (final approval for two new pipelines to bring Permian oil to Corpus)

<https://www.washingtontimes.com/news/2019/feb/14/easing-the-logjam-in-pipeline-infrastructure/> (commentary on why the US needs more pipelines)

<https://www.chron.com/business/energy/article/680-million-pipeline-gets-green-light-to-move-13661263.php> (new pipeline to bring gas from Oklahoma to the Gulf Coast)

<https://www.nytimes.com/2019/03/21/nyregion/con-ed-natural-gas.html> (no new gas hookups in Westchester County NY because of a lack of pipeline capacity)

<https://www.dallasnews.com/opinion/commentary/2019/03/29/oil-gas-pipelines-permian-basin-will-boost-production-safety> (massive new pipeline construction in Texas)

<https://www.nytimes.com/2019/04/10/business/energy-environment/trump-oil-gas-pipelines.html> (Trump signs executive orders to facilitate pipeline construction)

<https://www.nytimes.com/2019/05/15/nyregion/williams-pipeline-gas-energy.html> (New York State vetoes gas pipeline from Pennsylvania to Long Island)

<https://news.bloombergenvironment.com/environment-and-energy/national-grid-halts-new-nyc-gas-customers-until-pipeline-okd> (No pipeline, no gas hookups in NYC)

<https://www.houstonchronicle.com/business/energy/article/TSA-under-scrutiny-over-pipeline-security-failures-13835558.php?cmpid=gsa-chron-result> (pipelines vulnerable to cyber attacks)

<https://www.ft.com/content/29a60a66-92c4-11e9-b7ea-60e35ef678d2?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft.notification:daily-email:content> (DAPL induces a doubling of oil production in North Dakota)



<https://www.wsj.com/articles/the-u-s-is-overflowing-with-natural-gas-not-everyone-can-get-it-11562518355> (despite natural gas boom, pipeline bottlenecks limit distribution)

<https://on.ft.com/2YavWI7> (will oil tankers become “stranded” assets?)

<https://www.houstonchronicle.com/opinion/editorials/article/The-future-is-electric-and-Houston-knows-that-14092289.php?cmpid=gsa-chron-result> (is the future of transportation electric?)

<https://www.washingtonexaminer.com/policy/energy/epa-issues-rule-to-rein-in-blue-states-from-blocking-oil-and-gas-pipelines> (EPA tries to speed up pipeline approval)

## 10. Energy and global competition

<https://oilprice.com/Energy/Energy-General/Can-Argentina-Replicate-The-US-Shale-Boom22147.html> (will the Vaca Muerta in Argentina ever become competitive?)

<https://www.economist.com/finance-and-economics/2020/01/23/competition-sanctions-and-the-new-geopolitics-of-russian-gas> (the geopolitics of Russian gas in the European market)

<https://www.wsj.com/articles/fall-of-natural-gas-prices-speeds-energy-shift-in-east-asia-11587290400?mod=searchresults&page=1&pos=2> (growing markets for LNG in Asia offer opportunities to US producers and shippers)

[https://lancasteronline.com/news/politics/us-signs-order-for-first-west-coast-gas-export-terminal/article\\_d9ab208b-6342-5529-b9aa-51f91ea95441.html](https://lancasteronline.com/news/politics/us-signs-order-for-first-west-coast-gas-export-terminal/article_d9ab208b-6342-5529-b9aa-51f91ea95441.html) (Trump approves Oregon LNG export terminal but state pushes back)

[https://www.wsj.com/articles/qatar-to-leave-opec-as-cartel-pressured-to-cut-production-1543840921?mod=hp\\_lead\\_pos4](https://www.wsj.com/articles/qatar-to-leave-opec-as-cartel-pressured-to-cut-production-1543840921?mod=hp_lead_pos4) (significance of Qatar leaving OPEC)

<https://www.wsj.com/articles/frozen-u-s-gas-projects-welcome-any-thaw-with-china-1543947172?mod=searchresults&page=1&pos=4> (importance of China as a purchaser of US gas)

<https://oilprice.com/Energy/Energy-General/Is-This-The-Next-Big-Petrochemical-Hub-In-The-US.html> (can Appalachia become a new hub for petrochemical production and exports?)

<https://www.wsj.com/articles/aramco-mulls-u-s-lng-investment-with-shortlist-of-four-projects-sources-11546968862?mod=searchresults&page=1&pos=3> (Saudi Arabia to invest in US LNG projects)

<https://www.nytimes.com/2019/02/05/business/energy-environment/qatar-exxon-mobil-gas-export.html>? (Qatar and Exxon to build large LNG export facility at Sabine Pass, TX)

[https://www.wsj.com/articles/opec-pursues-formal-pact-with-russia-11549394604?mod=hp\\_major\\_pos2](https://www.wsj.com/articles/opec-pursues-formal-pact-with-russia-11549394604?mod=hp_major_pos2) (Saudi Arabia pursues Russia oil alliance)

<https://www.ft.com/content/096ab1e8-2b18-11e9-88a4-c32129756dd8?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (good example of international energy politics)

<https://www.ft.com/content/e0a6775c-2e4f-11e9-ba00-0251022932c8?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (Saudi Aramco goes global)

<https://www.wsj.com/articles/bp-renewables-and-natural-gas-to-dominate-energy-growth-by-2040-11550154643> (BP energy outlook sees renewables and gas growing with oil demand peaking in 20 years)

<https://www.ft.com/content/e21ec520-523b-11e9-b401-8d9ef1626294?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft:notification:daily-email:content> (global LNG market become more liquid)

[https://www.wsj.com/articles/u-s-natural-gas-market-is-taking-cues-from-china-11554984002?shareToken=st5e9537e223224b9690549848aa12e2ba&reflink=article\\_email\\_share](https://www.wsj.com/articles/u-s-natural-gas-market-is-taking-cues-from-china-11554984002?shareToken=st5e9537e223224b9690549848aa12e2ba&reflink=article_email_share) (China market affects US natural gas prices)

<https://www.reuters.com/article/us-usa-trade-china-lng/trade-war-cuts-u-s-liquefied-natural-gas-exports-to-china-idUSKCN1SG1YU> (trade war with China hits LNG exports)

<https://www.nytimes.com/2019/05/17/world/middleeast/saudi-oil-risk.html> (Saudi oil infrastructure vulnerable to attacks)

<https://thehill.com/opinion/energy-environment/445990-trade-war-could-make-our-lead-in-natural-gas-evaporate> (trade war with China bodes ill for US LNG exports)

<https://www.ft.com/content/1f6ac3d6-861f-11e9-97ea-05ac2431f453?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (Russian gas becomes a battleground for Trump v. Putin)

<https://www.bloomberg.com/news/articles/2019-06-25/the-dead-cow-finally-produces-oil-a-century-after-its-discovery> (Vaca Muerta may turn Argentina into a net O&G exporter)

## **11. US energy independence, energy exports, and the future of fossil fuels**

<https://www.ft.com/content/0666ec58-218c-11ea-b8a1-584213ee7b2b?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft:notification:daily-email:content> (should Norway leave it in the ground?)

<https://www.ft.com/content/fc8cca5c-3240-11ea-9703-eea0cae3f0de?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (better energy efficiency has reduced petroleum demand)

<https://www.bizjournals.com/sanantonio/news/2020/01/28/federal-energy-regulator-rejects-communities-pleas.html?ana=smartbrief> (opposition to LNG terminal in south Texas)

<https://www.ft.com/content/6f4187a0-639b-11ea-abcc-910c5b38d9ed?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (is this bust signal the end of hydrocarbons?)

<https://www.eenews.net/climatewire/2020/05/26/stories/1063231815> (another university divests from fossil fuels)

[https://www.eenews.net/energywire/2020/07/07/stories/1063518465?utm\\_medium=email&utm\\_source=eenews%3Aenergywire&utm\\_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D](https://www.eenews.net/energywire/2020/07/07/stories/1063518465?utm_medium=email&utm_source=eenews%3Aenergywire&utm_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D) (opposition to big energy projects threatens America's energy dominance)

<https://www.wsj.com/articles/universities-cut-oil-investments-as-student-activism-builds-11594719181> (universities cut investments in fossil fuel companies)

<https://www.economist.com/middle-east-and-africa/2020/07/18/the-end-of-the-arab-worlds-oil-age-is-nigh> (the demise of the Petrostates)

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### **THESE READINGS ARE OPTIONAL:**

<https://www.chron.com/business/energy/article/Analyst-Global-oil-demand-will-plateau-not-13442454.php> (global oil demand will peak around 2035 and then plateau, in part because of its use plastics)

<https://www.wsj.com/articles/u-s-becomes-net-exporter-of-oil-fuels-for-first-time-in-decades-1544128404?mod=searchresults&page=1&pos=3> (US become a net exporter for first time in 70 years)

<https://www.ft.com/content/1f2d9548-18f5-11e9-9e64-d150b3105d21?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (US to be net exporter of liquid fuels by end of 2020)

<https://finance.yahoo.com/news/refiners-stung-venezuela-sanctions-face-001714599.html> (Gulf Coast refiners looking for new sources of heavy crude)

<https://www.businesslive.co.za/bd/world/2019-01-25-europe-leads-list-of-buyers-for-us-liquefied-natural-gas/> (Europe become major market for US LNG)

<https://www.bloomberg.com/news/articles/2019-02-01/the-great-oil-paradox-too-many-good-crudes-not-enough-bad-ones> (because of Venezuela embargo, Gulf Coast refiners have to buy heavy crude from Middle Eastern producers)

<https://www.nytimes.com/2019/02/03/business/energy-environment/texas-permian-field-oil.html> (how the Permian has changed global energy markets)

<https://www.ft.com/content/8be711e0-2931-11e9-a5ab-ff8ef2b976c7?desktop=true&segmentId=dd5c99e9-30be-ddd0-c634-ff3a0c2b738f#myft.notification:daily-email:content> (UK buys more oil from U.S. than any other country)

<https://www.forbes.com/sites/judeclemente/2019/02/13/its-full-speed-ahead-for-u-s-natural-gas-exports/#5807c3b24d3d> (US gas exports hit record)

<https://www.bloomberg.com/news/articles/2019-02-22/ferc-approves-1st-lng-plant-in-2-years-after-resolving-deadlock> (FERC approves new LNG project in Louisiana)

<https://www.economist.com/leaders/2019/02/09/the-truth-about-big-oil-and-climate-change> (the long-term outlook for the oil industry)

<https://www.ft.com/content/5ab7edb2-3366-11e9-bd3a-8b2a211d90d5?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content> (Oil and gas industry boosts advertising to try to get their message across)

<https://www.wsj.com/articles/cheniere-deal-with-china-signals-countrys-key-role-in-lng-exports-11551735153> (Cheniere cuts \$18 deal to send LNG to China)

<https://oilprice.com/Geopolitics/International/US-Oil-Weapon-Could-Change-Geopolitics-Forever.html> (US oil dominance as a political weapon)

<https://www.wsj.com/articles/shell-boosts-bet-on-north-american-lng-exports-11553534641?mod=searchresults&page=1&pos=1> (Shell to convert LNG import terminal to export facility)

<https://www.reuters.com/article/us-carlyle-group-oil-exports/carlyle-takes-step-forward-on-1-billion-u-s-oil-export-project-idUSKCN1R92SY> (Carlyle to build billion dollar export terminal at Corpus Christi)

<https://www.houstonchronicle.com/opinion/outlook/article/Mexico-needs-natural-gas-Texas-can-supply-it-13724750.php> (more Texas gas going to Mexico)

<https://www.eia.gov/todayinenergy/detail.php?id=39072> (US exports average 2 million bbd in 2018)

<https://www.economist.com/finance-and-economics/2019/04/25/america-wants-to-challenge-rogue-petrostates> (the limits of American energy dominance)

<https://www.wsj.com/articles/saudi-arabia-strikes-deal-to-buy-u-s-natural-gas-11558487974> (Saudi Arabia to buy LNG from US)

<https://thehill.com/opinion/energy-environment/445990-trade-war-could-make-our-lead-in-natural-gas-evaporate> (trade war may harm America's prospects for exporting LNG)

<https://www.reuters.com/article/us-phillips-66-terminal-deepwater/us-refiner-phillips-66-enters-offshore-oil-export-race-idUSKCN1TK24Q> (Phillips 66 to build offshore crude export terminal)

<https://www.ft.com/reports/rethinking-energy> (taking a long view)

<https://www.dallasnews.com/opinion/opinion/2019/07/25/no-us-not-energy-independent> (argues the U.S. is not energy independent)

## Research Methods for Planning and Design

Safei-Eldin Hamed, Texas Tech University

### Course Description

**"An introduction to research processes and techniques focusing on comparing and contrasting the different aspects of research in the fields of design and planning with the typical research method associated with science and technology. The course addresses issues of theory of knowledge, research organization, operation planning, data manipulation, and communication".**

### Course Approach

This class will introduce the research processes and techniques as an activity of intellectual inquiry. It will focus on the key issues of research in the fields of landscape architecture, environmental design, architecture, urban design, regional planning and environmental management. The course will also examine the typical research methods associated with other disciplines including natural sciences and/or social sciences. The purpose is to enable students from different backgrounds to identify researchable questions, select a suitable approach, prepare research proposals, develop programs for design projects, and write technical papers.

### Course Objectives

1. To develop an appreciation of the key issues that affects the research activities within the fields of landscape architecture and planning.
2. To develop a familiarity with the research process as an intellectual and universal problem solving activity.
3. To survey the evolution of research within the fields of landscape architecture and its related fields.
4. To explore the "frontiers" of the emerging trends in landscape architecture and planning research and to formulate one's personal model of inquiry and critical thinking.

## Assessment

Literature reviews	40%
Mid-term presentation	20%
<b>Final research paper &amp; proposal</b>	<b>30%</b>
Class participation	10%

Successful completion of this course requires the following:

- ❑ Regular and professional participation in the sessions,
- ❑ Completing and presenting all course assignments,
- ❑ Preparing an acceptable mid-term presentation, and
- ❑ Submitting an acceptable research paper & proposal

Final grades will be based on the following percentage scale:

<b>90-100</b>	<b>A</b>
<b>80-89</b>	<b>B</b>
<b>70-79</b>	<b>C</b>
<b>60-69</b>	<b>D</b>
<b>0-59</b>	<b>Failing</b>

*An incomplete grade is given only in rare situations when the student is not able to complete the coursework due to circumstances beyond his/her control.*

## Administration

1. The student is fully responsible for the academic integrity of his/her work.
2. All submitted work becomes the property of the Department of Landscape Architecture and may be retained for display and teaching purposes.
3. Regardless of your academic background or research interest, it is my intention to encourage maximum participation of each student. I strongly believe that such participation is an unparalleled learning experience, and therefore, I expect that free and rigorous dialogue will bring new insights, ideas and synergy to our work.

## References

No single book adequately covers all five units addressed in this course. However, there are excellent references dealing with one or two facets only which you could research to complement the articles that I am assigning as required readings.

- Landscape and Urban Planning (Elsevier)
- Environment and Behavior (Sage)
- Landscape Research (Taylor & Francis)
- Landscape Journal (U of Wisconsin)