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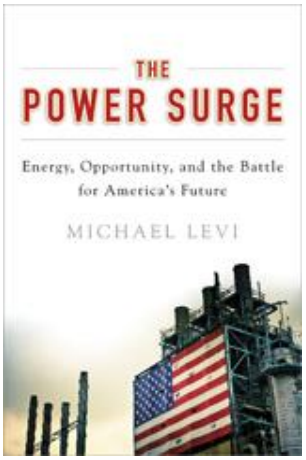


**Teaching Notes**
*The Power Surge*

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The United States is in the throes of two unfolding energy revolutions, and partisans—convinced that only their side holds the key to American prosperity, security, and safety—are battling over which one should prevail. In *The Power Surge*, Michael Levi takes readers inside the changes sweeping American energy to separate myth from reality and illuminate what's really happening. His book combines on-the-ground reporting, giving readers fine-grained insight into developments from fracking and shale oil to electric cars and solar power, with in-depth analysis of the consequences of these developments for economics, security, and the environment. *The Power Surge* introduces readers to ideas from economics, politics, international relations, and climate science, helping them make sense of the historic changes that are unfolding. Levi ultimately argues for a new strategy that blends the best of old and new energy while avoiding the real dangers that each poses.

This book offers a sophisticated but accessible analysis of energy developments and how they influence the economy, international security, and the environment, making it a valuable text for use in the following types of undergraduate and graduate courses:

- International Affairs
- International Security
- Political Economy
- Energy Systems
- Energy Policy
- Environmental Politics and Policy
- Climate Change

## Discussion Questions

**Courses on International Affairs and International Security**

1. Should countries care about where geographically they get their energy from? Do they care in practice? (Is "energy independence" meaningful?) Has the answer to these questions changed since 1973?

2. Will rising U.S. oil and gas production change U.S. relationships with major oil- and gas-producing countries, and if so, how?

3. Would a shift to renewable energy or electric vehicles introduce new security vulnerabilities?

4. What are the largest barriers to international action on climate change?

**Courses on Political Economy**

1. Do leaders' perceptions of their economic vulnerabilities due to dependence on imported oil affect their international behavior, and if so, how? Would leaders perceptions differ if they were grounded strictly in careful economic analysis of energy markets?

2. How do uneven economic and environmental consequences of oil and gas development affect the politics of oil and gas production within the United States?

3. How might the different political and economic conditions of various resource-rich countries affect the likelihood that they will eventually develop their shale gas and tight oil resources?

4. People have a range of beliefs about the appropriate role of government in the economy in general. How do these broad beliefs influence specific debates over energy policy?

**Courses on Energy Systems**

1. What are the main factors likely to affect U.S. oil and gas output over the next two decades? What are the main factors likely to affect U.S. renewable energy and energy efficiency deployment over the same period? Why have energy developments been difficult to predict?

2. How would increased U.S. oil and gas production affect U.S. adoption of renewable energy and energy efficiency, and vice versa? How would greater oil and gas production affect U.S. and global greenhouse gas emissions?

3. How would increased natural gas exports affect U.S. natural gas pricing and use? How would they affect U.S. relations with other countries?

4. What makes the U.S. economy vulnerable to oil-market disruptions? How would different prospective developments—greater oil production, increasing use of alternatives, improved efficiency—alter that?

**Courses on Energy Policy**

1. Under what conditions should government intervene to correct energy market failures?

2. How important is public policy, compared to other social and technological forces, in determining the course of U.S. energy development?

3. What is the appropriate division of labor between federal, state, and local governments in regulating shale gas and tight oil development?

4. How should policymakers deal with uncertainty in their knowledge of energy systems when crafting energy-related policy?

**Courses on Environmental Politics and Policy**

1. What conflicts exist between tackling local (e.g., water pollution) and global (e.g., climate change) environmental problems? How should policymakers manage those?

2. How are changes in U.S. energy use and production likely to affect the global politics of climate change?

3. What are the most important environmental challenges associated with shale gas and tight oil development? Should policy toward development on public and private lands be different from each other? Why or why not?

4. Should promoting renewable energy development be a goal of public policy? If so, what is the best way to pursue that goal? If not, why not?

**Courses on Climate Change**

1. What conflicts exist between tackling climate change and local environmental problems (e.g., water pollution)? How should policymakers manage those?

2. How are changes in U.S. energy use and production likely to affect the global politics of climate change?

3. What is the best target (if any) for global greenhouse gas emissions? How should the choice of target (if any) influence U.S. climate change strategy?

4. What are the likely impacts of increased U.S. oil and gas production on global greenhouse gas emissions?

## Essay Questions

**Courses on International Affairs and International Security**

1. "Energy independence" has been a regular feature of U.S. political and policy discussions since 1973. Discuss how the role of energy independence in U.S. debates has evolved over the past forty years. Has rhetoric about energy independence influenced U.S. policy, and if so, how? Is rising U.S. oil and gas production likely to alter U.S. debates surrounding energy independence, and if so, how, and with what consequences?

2. The United States has long been committed to maintaining the free flow of oil from the Persian Gulf. Should it continue or alter that strategy? In your analysis, please discuss the roles of (a)

changes in the international system, (b) changes in U.S. oil consumption, (c) changes in international oil markets, and (d) changes in U.S. oil production.

**Courses on Political Economy**

1. Choose two U.S. states in which shale gas and/or tight oil development has been pursued or debated, and trace the evolution of the public and political debates surrounding development in each state. How have different configurations of political and economic power affected the outcomes in the two states differently?

2. Choose a historical instance in which fossil fuel and alternative energy interests have collaborated on energy policy (e.g. United States Climate Action Partnership). What propelled them to cooperate? How did their conflicting interests influence their ability to achieve policy and energy system results?

**Courses on Energy Systems**

1. Choose a zero-carbon energy technology and analyze, quantitatively, the likely and possible consequences of shale gas and tight oil development on its evolution. Include economic and political dynamics in your analysis, and discuss major sources of uncertainty.

2. Natural gas is often described as a "bridge fuel" from coal to zero-carbon energy. Is natural gas likely to play that role? What would be required in order for it to do so? Discuss political, economic, and technological changes likely to result from increased natural gas use, and assess their likely consequences for zero-carbon energy use. You may focus either on the United States, on another country, or on the global energy system.

**Courses on Energy Policy**

1. In 2005 and 2007, the U.S. Congress passed major bipartisan energy bills. Choose one of these. Discuss its legislative and political history. How did the bill come about? What were its main political hurdles? How were they overcome? Could such a bill pass today? If so, why, and if not, why not? (Optional: Discuss the bill's ultimate effectiveness as well.)

2. Can supply-side energy policy effectively address climate change? Discuss different supply-side options (e.g. technology promotion, restrictions on fossil fuel development, etc.) Discuss both the likely effectiveness of various options in practice as well as their politics.

**Courses on Environmental Politics and Policy**

1. Choose two U.S. states in which shale gas and/or tight oil development has been pursued or debated, and trace the evolution of the public and political debates surrounding development in each state. How have different configurations of political and economic power affected the outcomes in the two states differently?

2. In recent years, U.S. regulators have used a "social cost of carbon" (SCC) in their regulatory analyses. Is the use of an SCC an effective way to integrate climate change into policy? What are the main challenges associated with using it? Could its use be improved? (Optional: Choose a major energy technology or resource discussed in the book and evaluate how fully internalizing the social cost of carbon might alter regulations that affect it.)

### Courses on Climate Change

1. How is increased U.S. natural gas (or tight oil) production likely to affect global greenhouse gas emissions? Discuss economic and political dynamics. Discuss both direct impacts on U.S. emissions and consequences for global emissions. What are the largest uncertainties in your analysis? What role do future policy decisions play in determining your answer?

2. What are the main ways in which pursuit of climate change mitigation and energy security coincide and conflict? For ways in which the two conflict, are the conflicts inevitable or discretionary? For courses that also focus on policy, discuss ways to manage conflicts; for courses focused on politics, discuss how these conflicts are likely to influence future policy.

## Further Projects

### Community Simulation

Assign students roles in a community that is trying to decide how to deal with prospective shale gas development. (A similar project could be done for other energy sources, including a major wind farm or oil project.) Roles can include community leader, landowner, farmer, businessperson, activist, and others that the students might suggest. (Multiple students can take on the same role.) Students can also be assigned roles outside the community, such as industry representative or environmental group staffer, or state or federal legislator, who might try to influence community discussions. Have each student prepare a brief (3-5) page position paper outlining their views on development and appropriate rules and regulations, discussing likely opposition, and suggesting strategy, including areas for compromise and places where compromise is inappropriate. Then have the students gather in a "town hall" or similar setting to debate and decide how to proceed.

### Business Strategy

Have students choose a company involved in renewable energy or energy efficiency (including advanced automobiles). (This project can be done individually or in groups.) The company can be an operator or an investment firm. Students should write a business analysis of roughly ten pages assessing the likely impact of increased U.S. oil and/or gas development on the company and appropriate strategic responses, both in the company's business strategy and in its attempts to influence public policy. The students should also write a one page executive summary focusing on the most important conclusions. The students should ultimately present their reports to a group of their peers playing the role of a board of directors, with those peers probing their conclusions.

## Supplementary Materials

"America's Energy Resurgence: Sustaining Success, Confronting Challenges: A Report from the Bipartisan Policy Center's Strategic Energy Policy Initiative," Bipartisan Policy Center, 2013.

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Victor, David G. *Global Warming Gridlock: Creating More Effective Strategies for Protecting the Planet.* New York: Cambridge University Press, 2011.

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