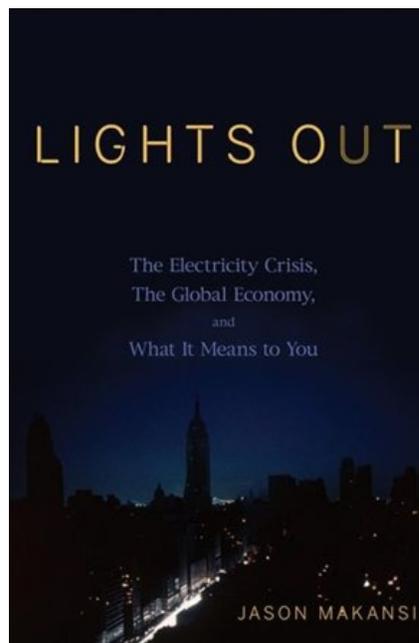


## **A DISCUSSION GUIDE**

### **Lights Out**

The Electricity Crisis, the Global Economy, and  
What it Means to You

By Jason Makansi



## **Electricity powers our lives.**

**Yet few people pay attention to their electricity service--until the power goes out and the water, telecommunications, transportation, and banking systems that are so integral to our daily lives grind to a halt.**

Jason Makansi's latest book, *Lights Out: The Electricity Crisis, The Global Economy, and What it Means to You*, seeks to change that by zeroing in on the growing impact that electricity has on the future of our economic prosperity, environment, and national security. Written for a general audience, *Lights Out* is a provocative and prescriptive book that shakes up the traditional view of the electricity business and shines a much-needed light on the challenges—and rational solutions—facing us today. Filled with in-depth insights and practical advice, *Lights Out* examines our “third-world” transmission grid that is in desperate need of upgrading, gives an intellectually honest assessment of how to deal with electricity’s contribution to global warming, and addresses numerous hot button economic, environmental, political and national security issues. *Lights Out* delivers a framework for rethinking, rebuilding, and enhancing our entire electricity production and delivery infrastructure, and is a must read for anyone who cares about economic growth, energy independence, environmental sustainability, and the security of our infrastructure.

### **About Jason Makansi**

Jason Makansi is the President of Pearl Street, Inc., a consulting firm; Principal of PS Liquidity Advisors, an advisory service for energy technology companies raising capital; and Executive Director of the Energy Storage Council, a public-policy advocacy organization. A prolific author, respected industry thought leader, and seasoned communicator, Makansi has been analyzing the technological, business, and regulatory issues in electricity production and delivery for over twenty-five years. Makansi's experience includes serving as Director, Power Generation for Myplant.com, a division of Honeywell, and serving as Editor-in-

Chief of *Power* and *Electric Power International* magazines and as a contributing editor of *Electrical World* magazine. During his 18-year tenure with The McGraw Hill Companies, he researched and analyzed every aspect of electricity generation and visited power plants and electricity infrastructure around the globe.

Mr. Makansi has appeared on CNBC and the Financial News Network and has been interviewed several times on NPR. He has been interviewed for and quoted in *The New York Times*, *Newsweek* and *CFO* magazine, has written special sections on energy for *Business Week*, and has had articles published in *Power* magazine, *Electric Power International*, *Global Energy Business*, *Electrical World*, *Power Engineering*, *Combined Cycle Journal*, *IEEE Spectrum*, and others. He was featured in a History Channel production of *Modern Marvels* on power plants. He is active in academic, industry and policy forums, and serves as a member of the United States Energy Association, the National Coal Council, and The International Society for Industrial Ecology, and he serves on the Electric Power Conference Series Program Committee and the Executive Committee ISA/EPRI Power Industry Division Conference. Mr. Makansi earned a BS in chemical engineering from Columbia University.

### **About the Discussion Guide**

Because readers from engineering, financial, environmental and community organizations may wish to focus on very different aspects of the book, the discussion guide is laid out as a detailed outline from which sections/questions can be easily selected. More general discussion points are included at the beginning.

We would love to hear your feedback! Please feel free to share your discussion notes/comments with us. You can send them to us at [info@pearlstreetinc.com](mailto:info@pearlstreetinc.com). Thank you!

# LIGHTS OUT

## General Discussion Questions

1. Do you agree that the challenges discussed in Lights Out merit a national conversation and are critical to the future of our economy, our environment and our national security?
  - a. Why or why not?
  - b. If yes, what can you, personally, do?
2. Has Lights Out motivated you to take personal action on any of the topics discussed?
3. Has Lights Out changed your mind on any of the topics presented?
  - a. If yes, explain which topics and why you changed your mind.
4. From your point-of-view, has Makansi presented a fair assessment of the electricity industry and the challenges it faces?
5. Do you agree or disagree that, as Americans, we are obsessed with our petroleum and gasoline supply/pricing, while we pay scant attention to electricity?
  - a. Why or why not?
6. The author's motivation in writing Lights Out was to illuminate and bring together the many disparate issues facing the health our electricity system. Do you believe he achieved his goal?
  - a. Why or why not?

## PART ONE: The Worst-Case Scenario

1. Discuss the last time the lights went out where you live.
  - a. How long did the outage last?
  - b. How did it affect you?
2. What steps, if any, have you taken in the wake of your last outage?
3. How do you think an extended outage would affect you, your business, or you school?
4. Were you aware of the extent of our society's dependence on electricity?

5. Discuss the different parts of the electricity production and delivery value chain.
6. How do you think lengthening the part of the value chain may affect our electricity supply?
7. Discuss the effects of global economic development on the different parts of the value chain.
8. Do you think that Americans are interested in personal steps to change their electricity consumption habits?
  - a. If you had an advanced meter in your home or business, would you change your usage?
9. What steps do you think should be taken to prevent the “worst-case scenario”?

## **PART TWO: Insecurities, Vulnerabilities, and an Uneasy State of the Industry**

1. What does a “third-world” grid mean?
2. How is the path electricity takes from producer to consumer different from the path other commodities take from producer to consumer?
3. What are the grid “interconnections” and why are they important?
4. Do you believe that the transmission part of our electricity system is secure?
  - a. Why or why not?
5. Why does Makansi call the transmission system “Byzantine”?
6. Describe Makansi’s “Transaction Economy.”
  - a. Does this makes sense?
  - b. Why or why not?
7. Concern about a lack of young people going into science and engineering is widespread. Do you know any students today who want to work in the power industry?

- a. What do you believe can be done to attract new talent to the industry?
  - b. How will we be affected if new talent cannot be attracted?
8. What is your primary environmental concern?
  - a. How does the electricity industry contribute, if it does, to that concern?
  - b. What should be done to minimize that contribution?
9. How would you feel if, as Makansi asserts, getting 50% of our electricity from wind meant locating turbines near where you live and work?
10. How would you feel about requiring solar arrays on all the houses on your street?
11. What do you believe is the best solution—or basket of solutions—for addressing our appetite for electricity and our concern for the environment?
  - a. What would be the challenges for implementing your solution?
    - i. What is the time frame?
    - ii. Costs?
    - iii. What, if any, may be some of the unintended consequences of your solution?
12. Do you believe importing liquefied natural gas (LNG) can be part of the solution to eliminating our dependence on coal-fired generation?

## **PART THREE: Fighting the Last War,” Planning the Next One**

1. Why does Makansi believe that industry executives are acting like it's the 1970s all over again?
2. What does Makansi mean by the statement, “Short-term economic gain is often long-term pain in other important areas?”
3. Discuss the deregulatory strategy some states took when they instituted rate reductions and then froze rates in place.

- a. Do you believe this helped or hurt the average electricity consumer?
  - b. Why?
4. Discuss the role Wall Street plays in the electricity industry?
5. Makansi believes that one of the primary reasons coal provides 50% of our generating capacity and wind and solar provide significantly less is that coal is “sitting ready to be harnessed at our discretion” while the others have to be used “at the discretion of Mother Nature.” Do you agree or disagree?
6. Do you agree or disagree with Makansi on the value of energy storage?
  - a. Why or why not?
7. If coal were used in accordance with the principles of Industrial Ecology, as Makansi describes, would you be for or against it?
  - a. Why or why not?
8. Nuclear power is making a comeback, even amongst some environmentalists. How do you feel about nuclear energy?
9. We are all energy consumers. But what roles can individuals, neighborhoods, small businesses play on the energy production side? Discuss the concept of distributed generation.
10. How will our (i.e. The United States of America) electricity future be affected by the rapidly growing economies of China and India?
11. Discuss the different aspects of Makansi’s Vision for the Future:
  - a. Conceptual
  - b. Technological (both left side and right side)
  - c. Regulatory
  - d. Financial
  - e. Global
  - f. Social