Instructor: Stuart Chaitkin, Senior Associate, EHE, JHSPH   schaitk1@jhu.edu
Mr. Chaitkin spent 20 years working as an energy policy analyst for the California Public Utilities Commission and Lawrence Berkeley National Laboratory on a variety of energy policy issues. He has offered this course at the Hopkins Bloomberg School of Public Health in 3rd Term for each of the past twelve (12) years.

Brief Course Description: Throughout the world energy issues are regularly a front-page story. Our choices about energy acquisition and use are tied directly to economic prosperity, environmental quality, population health, and critical aspects of national and international security. Energy is fundamental to food systems, water systems, industrial activity, whether and how economic growth takes place in developed as well as developing countries, and the degree to which climate change is disruptive. In so many ways, the future of energy is at the core of our quest for sustainability. This course provides students with the knowledge base and evaluation skills needed to understand why energy is so important and how energy policy choices can have such wide-ranging effects on the environment and on human health and well-being. Students will learn about the obstacles that slow the adoption of energy policy choices that could enhance health and promote sustainable development around the world as well as the role that public health professionals could have in overcoming these obstacles.

Course Learning Objectives
This course will prepare Hopkins SPH students to be able to do the following:
- Explain the basic linkages between energy acquisition and use and public health.
- Identify the principal negative impacts associated with energy exploration, generation, and consumption in low-income, resource-poor countries as well as developed countries.
- Distinguish between potentially valid and overly hyped claims about energy performance, energy impacts, and energy technologies.
- Review and critique potential solutions to the biggest energy challenges we face.
- Explore a range of policy choices for reducing the impacts of energy consumption on public health.

Big Course Questions
Why is energy so important – to the economy, to the environment, to national security, to public health? How and from where do we acquire our energy? How much do we pay for our energy? Why do we in the U.S. (in particular) use so much energy? What policies could reduce our energy use? Which new or revised energy policies would provide the most benefits to public health? How can people suffering from “energy poverty” acquire affordable energy services? What policy changes are needed to avoid the worst effects of energy-related disruptive climate change? What would sustainable energy systems look like? How can health impacts receive more consideration when energy policies are being formulated? What can public health professionals do to help us all shift to more sustainable energy systems?

Key Messages of this Course
Access to cheap energy underpins modern industrial societies. Finding enough energy to fuel industrialized economies, in a sustainable manner, and enable low-income countries to end energy poverty without overheating the climate are central challenges of the 21st century. There are no easy solutions to these challenges; no energy source is free of impacts. Public health professionals have key roles in shaping the transition to more sustainable energy regimes.

DRAFT LIST OF TOPICS FOR CLASS SESSIONS – 3rd Term 2019-2020
Class Session #1: Course Intro/Overview. Energy’s importance to health; our 3 biggest energy challenges.
Class Session #2: De-carbonizing electricity generation: Focus on fossil fuels.
Class Session #3: De-carbonizing electricity generation: Focus on nuclear, renewables, & energy efficiency.
Class Session #4: Ending the addiction to oil.
Class Session #5: Ending energy poverty.
Class Session #6: Follow-up on previous Class Sessions as needed or Other Energy Issues.
Class Session #7: Vision of a sustainable energy future; Role of public health professionals in shaping it.
Four series of articles in The Lancet are especially foundational to the health aspects of this course.

**Lancet Series 1:** Energy and Health – September 2007

**Lancet Series 2:** Health Effects of Climate Change – May 2009


**Lancet Series 4:** Health and climate change: policy responses to protect public health – June 2015

**REQUIRED COURSE READINGS** from these Lancet series are the ones highlighted below in yellow.

**LANCET Series 1: ENERGY AND HEALTH, Sept, Oct 2007 (Vol 370)**
- Righting the Balance: Energy for Health [921]
- Andy Haines: exploring the effects of global environmental change and energy use on health [929]
- Energy and Health 1: A Global Perspective on Energy: Health Effects and Injustices [965-978]
- Energy and Health 2: Electricity Generation and Health [979-990]
- Energy and Health 3: Energy and Transport [1078-1088]
- Energy and Health 4: Energy, energy efficiency, and the built environment [1175-1187]
- Energy and Health 5: Food, livestock production, energy, climate change, and health [1253-1263]
- Energy and Health 6: Policies for accelerating access to clean energy, improving health, advancing development, and mitigating climate change [1264-1281]

**LANCET Series 2: HEALTH EFFECTS OF CLIMATE CHANGE, May 2009 (Vol 373)**
- Editorial: A Commission on Climate Change [1659]
- Comment: Health and climate change: a roadmap for applied research [1663-1665]
- Perspectives: Anthony Costello: Making Climate Change Part of Global Health [1669]
- Lancet Commissions: Lancet and University College London Institute for Global Health Commission: Managing the health effects of climate change, Executive Summary: 1693-1697

- Comment: Cutting carbon, improving health [1870-1871]
- Comment: Health professionals must act to tackle climate change [1953-1954]
- Comment: Aligning climate change and public health policies [2035-2038]
- H&CC 1: PH benefits of strategies to reduce GHG emissions: household energy [1917-1929]
- H&CC 2: PH benefits of strategies to reduce GHG emissions: urban land transport [1930-1943]
- H&CC 4: PH benefits of strategies to reduce GHG emissions: food and agriculture [2016-2025]
- H&CC 5: PH benefits of strategies to reduce GHG emissions: health implications of short-lived GHG pollutants [2091-2103]
- Health and Climate Change 6: PH benefits of strategies to reduce GHG emissions: overview and implications for policy makers [2104-2114]

**LANCET Series 4: The Lancet Commissions, Published online June 23, 2015**
- Health and climate change: policy responses to protect public health

**OTHER Energy-Focused REQUIRED COURSE READINGS (and one VIDEO) – All Posted on CoursePlus**
- "List of Recent Important Energy-related Articles" from which you’ll choose 3 articles for your "Mini-Statements.
- IEA World Energy Outlook 2019, Press Release (2 pages) and Press Conference Video (57 minutes).
- Energy Security and Humanitarian Action: Key Emerging Trends and Challenges, September 2010, OCHA Brief No. 3.
- Rethinking Transportation 2020-2030, RethinkX, Disruption, Implications, and Choices. Executive Summary, pp.6-10.

**LOGISTICS**

**Only 7 Class Sessions:** Mondays, 1:30pm-3:20pm, January 27, February 3, 10, 17, 24, March 2, 9, 2020.


"Office" Hours: Email to arrange: meeting before/after class is usually possible. We can also speak by phone.

**Course Plus:** Lecture slides (in pdf format) will be posted. Students will submit assignments in Drop Boxes.

**Format:** Lecture, discussion, brief student presentations.

Students should be fully “engaged” during each class session and should be fully prepared to:
- discuss potential solutions to challenges or questions posed by the instructor;
- ask questions, and present your own viewpoints, about the energy issues being discussed;
- reflect (constructively) on the comments of your fellow students;
- comment on recent energy-related media articles or any energy-health issue raised in the class.
ASSIGNMENTS: GRADING/EVALUATION

Three components:

A) Class Participation, with 3 sub-components: 29%

B) Five Written "Mini-Statements" 30%

C) Final Take-Home Exam (True/False, Short Answer, etc.) 41%

100%

A) 29%: Class Participation (with 3 sub-components: Attendance, Engagement, Brief Oral Presentation):

7%: Attendance: One point per class session. You’ll lose that point if you miss class without informing me of the date and reason, prior to the class you’ll miss. A signup sheet will be available at the beginning of class. It is your responsibility to sign it before the end of each class session.

14%: Engagement: Evaluation will be based on both the quality and quantity of your in-class comments and questions which every student should bring to the course. While it is not necessary to comment on every topic we discuss, you are expected to be fully engaged in each class and to participate on a regular basis. You should feel comfortable asking questions and expressing/discussing your positions with your classmates, while respecting positions that may be different from yours. [Note that it’s also possible to inappropriately dominate discussion.] A note on laptops: While you may certainly use laptops in class to take notes electronically, being distracted during class by viewing non-class-related materials is not consistent with being fully engaged.

8%: One Brief Oral Presentation: During any class session, in a maximum of 2½ minutes, present a brief oral summary of a recent media article on an energy issue of your choice – but not an article from the list of articles called: “List of recent important energy-related articles.” Your oral presentation should include your thoughts on how well the recent media article explained what the energy issue was, how important it was, the ways in which the energy issue was portrayed (or not) as connected to other issues (such as the economy, the environment, or national security), and the ways in which the energy issue relates to public health. You should also mention any seemingly incorrect or misleading statements you found in the media article. Send me an email no later than 10pm on the Sunday before the Monday class day during which you want to present that provides a link to the recent media article you intend to discuss. Practice your presentation so that it does not exceed 2½ minutes. During your brief Oral Presentation, each of your fellow students should prepare a question to ask you when you've finished your Presentation.

B) 30%: Five Written “Mini-Statements”: Prepare and submit five (5) thoughtful “Mini-Statements” (150 words maximum).

Three of these Mini-Statements must be on an energy issue drawn from the document called: “List of Recent Important Energy-related Articles.”

Two of these “Mini-Statements” must be on an energy issue drawn from two different documents in the list of Required Readings (of course not including the “List of Recent Important Energy-related Articles”).

Your “Mini-Statements” can be styled as:

- a set of probing questions; [Note: You cannot use this style more than once.]
- some carefully framed comments or reflections;
- a critique on the article you chose.

“Thoughtful” is the key to a successful “Mini-Statement.”

And, importantly your writing must be clear enough for me to fully understand everything you wrote. Do not write a “Mini-Statement” on an article that addresses the same subject on which you make a Brief Oral Presentation.

These written “Mini-Statements” should be placed in the appropriate Mini-Statement Drop Box:

1st “Mini-Statement” due 2/5/20
2nd “Mini-Statement” due 2/12/20
3rd “Mini-Statement” due 2/19/20
4th “Mini-Statement” due 2/26/20
5th “Mini-Statement” due 3/4/20

C) 41%: Final Take-Home Exam (True/False, Short Answer, Very Short Answer, Definitions, List, Simple Calculations). To be distributed 3/2/20; due in the “Final Take-Home Exam Drop Box” by Wed. 3/11/20, 10pm. A penalty will apply if your Final Take-Home Exam is submitted after this deadline.

These assignments are intended to allow you to succeed in demonstrating your understanding of the important role that our energy choices have in affecting our ability to enrich (or ruin) the world’s economies, protect (or harm) environments (including the climate), enhance (or threaten) critical aspects of national and international security, and improve (or worsen) public health.