

Geography 556: Geography of the Energy Crisis

Department of Geography

Fall 2007 – 3 Credit Hours

Instructor: Cornelis (Kees) J. van der Veen
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Hours: Monday and Wednesday, 12:00 – 2:00 pm
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Rationale

Since the best-selling “*Limits to Growth*” was published in the early 1970s, many people have become aware that some natural resources are limited. Yet societies as a whole continue to expand their economies, and continue to increase per capita energy consumption. Coupled with a burgeoning population, it seems inevitable that this path is unsustainable and that at some time in the future, societies will be faced with difficult choices regarding life styles in order to adapt to decreased availability of resources. From an energy perspective, of particular urgency may be the pending shortage of fossil fuels, most notably decreased production of crude oil. Indeed, the American Geophysical Union devoted a special session to this topic during the 2004 Fall Meeting in San Francisco. Yet few of our students realize that the world oil production will peak during their life span, with predictions for the timing of “peak oil” ranging from 2005 to somewhere in the middle of the 21st century. Over the past century or so, economies of Western nations have developed explosively, fueled by cheap energy from fossil fuels. Decreased production and uncertain future production will likely lead to sharply rising prices for energy and may thus be expected to severely impact our economies – if not grinding our affluent lifestyles to a halt, as argued by some. In this class, we will explore these issues and attempt to separate rhetoric from facts, and how we can prepare for the inevitable: the last drop of cheap oil and gas.

Objective

The primary objective of this class is to force students to think about the issues involved and to find a balance between the alarmists’ arguments that the end of modern civilization is near, and the cornucopians who want us to believe that there is no immediate threat to societies. Too often, the debate becomes marred by emotional arguments rather than being based on rational reasoning and we will debate all sides of the issues. While there may not be a simple solution societies can adopt, several pathways will be explored and their viability discussed.

Format

Active student participation is essential in this class. While there will be some lectures on background material by the instructor as well as videos on selected topics, most of the class time will be devoted to classroom discussion of videos, assigned papers, and news items. Students will prepare a group presentation (30 – 45 minutes) and summary paper on one form of alternative energy discussing the pros and cons of that energy source. At the end of the semester, each student will give a 10 minute individual presentation outlining pathways for the future of society as we know it.

Grading

Grades will be based on student synopsis of videos shown in class (25%), group presentation and accompanying paper (30%), participation in classroom discussions (20%), a final paper that outlines pathways for the future of society as we know it (20%), and a final exam that will consist of a one-page essay on a related topic (5%).

Note that there is no “politically correct” view that will yield a better grade. While undoubtedly the instructor is biased to some extent in his opinions, grades will be based on the quality and soundness of arguments presented and not on whether these arguments agree with the biased views of the instructor.

Prerequisites

There are no prerequisites for this class.

Course format

Lectures on Friday from 10:00 am to 12:50 pm in Rm 210, Lindley Hall.

Literature

Selected papers will be provided throughout the semester.

Tentative schedule

<i>Week</i>	<i>Date</i>	<i>Topic</i>
1	8-17	Introduction to the class <i>Video: Energy Crossroads</i>
2	8-24	Peak Oil <i>Video:</i>
3	8-31	The cost of Oil <i>Video: Crude Impact</i>
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4	9-7	Life after Peak Oil <i>Video: The Power of Community</i>
5	9-14	Group 1: sustainable cities / sustainability on campus <i>Video: The End of Suburbia</i>
6	9-21	Group 2: gas, coal, unconventional fossil fuels <i>Video: The Appalachians (clip)</i>
7	9-28	Group 3: energy from wind Group 4: energy from water / the Three Gorges Dam
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8	10-5	<i>No class</i>
9	10-12	Fall break
10	10-19	Group 5: solar energy Group 6: nuclear energy
11	10-26	Group 7: the hydrogen economy
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12	11-2	TBD
13	11-9	TBD
14	11-16	The Four Horsemen of the Apocalypse <i>Video: Nobility</i>
15	11-23	Thanksgiving
16	11-30	Individual presentations
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17	12-7	<i>No class</i>
