Energy, Environment, and Society  
BIS 458  
Winter 2006

Instructor: Nives Dolšak  
Class Time: Mondays and Wednesdays, 5:45 pm - 7:50 pm  
Office hours: Wednesdays, 4:15 PM– 5:15 PM or by appointment  
Voice: 425-352-3492

Class Location: UW1-020  
Office: UWB2-332  
E-mail: ndolsak@uw.edu

Course Description

The goal of this course is to understand availability of energy from a variety of sources, environmental consequences of energy supply and consumption, and the ways in which a society can impact those with a variety of instruments. We will draw on knowledge from multiple disciplines to understand environmental, economic, social, and political implications of the choices a society makes to meet its energy needs.

Course objectives:

This course will help students develop skills to:

1. Evaluate availability of energy sources nationally and globally;
2. Identify environmental consequences of using various energy sources and understand technologies for addressing these environmental problems;
3. Understand other negative aspects of reliance on fossil fuels;
4. Employ analytical methods from a variety of scholarly disciplines to understand factors that impact selection of energy technologies and policy instruments;
5. Examine characteristics of energy demand across space and time;
6. Understand, critique, and apply policy instruments to either decrease or increase the use of various energy sources;
7. Analyze empirical data to understand energy choices made by national, state, and local policy makers;
(8) Write succinctly about technological, economic, social, and political aspects of energy use;
(9) Productively use educational and information technology.

**Required Readings available at the University of Washington, Bothell Library:**

*Readings on electronic reserve:*


Executive summary, this report, Implications and conclusions.

Assignments, Evaluation, and Grading

Evaluation and Grading

The grade for this course will be based on the following assignments:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Number of assignments</th>
<th>Points per assignment</th>
<th>Total points</th>
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<tbody>
<tr>
<td>Memo</td>
<td>8</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td>State report</td>
<td>1</td>
<td>18</td>
<td>18</td>
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<tr>
<td>City report</td>
<td>1</td>
<td>18</td>
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<tr>
<td>TOTAL</td>
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The final grade in this course is calculated by dividing the total number of points by 25.

Memos

You will write 8 one-page single-spaced memos reflecting on readings assigned for one class session a week and a newspaper article addressing current energy issues. You will identify the newspaper article yourself and cite it appropriately in your memo. The memos will give you an opportunity to reflect upon the facts, arguments, and open issues addressed in the readings and newspapers as well as an opportunity to link them to your research projects. The memos will be graded based on the clarity of arguments reflecting the assigned readings and arguments made in the newspaper article. As you will see in the weekly schedule on pages 6 and 7, there are 12 class sessions from which you can choose to submit a memo. This hopefully provides some flexibility for you schedule your class assignments throughout the quarter.

To post a memo, use the “digital drop box” option in “tools”. Post your memo using the SEND File option, NOT the ADD file option. Please post the memo by 1:00 PM of the day for which you are
writing the memo. To be able to access the bls458 black board site, you will first have to enroll in this class on the UWB black board site. If you have any problems accessing black board site, contact the UWB Information Systems at 425-352-5275 or helpdesk@uwb.edu.

**Group Student Research Projects**

You will be placed in a group of three students. You will undertake two group research projects, but you will be evaluated for your individual contribution to the group project. These research projects will enable you to examine how the theoretical concepts, arguments, and facts we will study in class impact real-life policies regulating energy use and environment. The first research project will review policies a State (selected by the group) enacted to address energy use and environment from the perspective of global climate change. The second research project will enable you to understand factors that impact City policies regulating emissions of greenhouse gases.

Each group will submit a 10-12 double-spaced page report. Please indicate which group member authored which section of the report. Each group will also present its findings in an oral presentation to the rest of the class. The reports and presentations will be graded on the basis of the following criteria:

1. Research skills: has the student collected the appropriate data;
2. Analytical skills: has the student appropriately analyzed the data—have the concepts examined in the text readings and class discussions been addressed;
3. Presentation skills: is the presentation clear and focused.

**State Research Project**

Each group will select a state with an explicit Global Climate Change policy from the web page of the List compiled by the Environmental Defense organization [http://www.environmentaldefense.org/article.cfm?contentid=2863](http://www.environmentaldefense.org/article.cfm?contentid=2863).

Groups are encouraged to address the following issues in their studies:

1. Background information on the size and the geography of the city impacting its environmental problems resulting from energy use;
2. Energy Mix in the State’s supply of energy for the most recent year available;
3. Stringency of Environmental Laws
5. Compliance with the Clean Air Act Amendments regulating SO2 and NOx emissions: Violations filed in court by the EPA;

This is a recommended list and a group may choose to include other important information and use other sources in addition to those provided above.

**Due:** Please submit your group reports electronically through the Blackboard Digital drop box by **Friday, February 24, 1:00 PM**. Each group will submit only one file including all group members’ contributions, graphs, and references.

**City Research Project**

Each group will select a city with a global climate change program from those listed at the web page of the International Council for Local Environmental Initiatives.
Groups are encouraged to address the following issues in their studies:
(1) Background information on the size and the geography of the city impacting its environmental problems resulting from energy use;
(2) Compliance with the Clean Air Act Amendments regulating SO2 and NOx emissions: Violations filed in court by the EPA;
(3) Participation in Clean Cities Program: http://www.ccities.doe.gov/
(4) Participation in Cities For Climate Control Campaign at the city and/or county level http://www.iclei.org/us/ccp/
(5) Global Climate Change Actions taken by the City.
This is a recommended list and a group may choose to include other important information and use other sources in addition to those provided above.

Due: Please submit your group reports electronically through the Blackboard Digital drop box by Monday, March 6, 1:00 PM. Each group will submit only one file including all group members’ contributions, graphs, and references.

Late Submission Policy
You are expected to submit the assignment by the specified deadlines. Reading in advance and reflecting on the assigned readings is essential for a productive class discussion. Further, the group research assignments are built in two stages where the second stage depends on successful learning at the first stage. For all these reasons, I cannot accept late assignments. However, if you are not able to submit an assignment on time due to medical reasons, please provide documentation from your doctor indicating the duration of the incapacitation.

Academic Honesty
I expect students to uphold the highest standards of academic conduct pursuant to the University of Washington Student Conduct Code, Section WAC 478-120-020-2(a). You are expected to be familiar with and adhere to the rules regulating academic conduct as outlined by the UW Bothell policies on maintaining academic integrity. You are encouraged to read these policies in the University of Washington, Bothell General Catalog 2002-2004, page 15 and 16. In addition, you may find the following three web sites helpful in understanding and avoiding plagiarism:

The memos and the research project reports are expected to be students’ original work. Incorrect or missing citations, use of other people’s work, ideas, data, figures, and other published and unpublished material without acknowledging them correctly, copying portions of text from other authors, incorrectly paraphrasing other authors, or copying text from the internet constitute plagiarism. Any such or other activities of plagiarism will initiate formal procedures as outlined in the UW Bothell student book.
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<th>M</th>
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<tbody>
<tr>
<td>1/02</td>
<td>Class does not meet: Holidays</td>
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<td></td>
<td><strong>Week 1</strong></td>
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<tr>
<td>1/9</td>
<td><strong>Long term trends and Energy Forecasting</strong> Smil Chapters 1 and 3 (ERR) <strong>Memo</strong></td>
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<td><strong>Week 2</strong></td>
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<td>Class does not meet: Holiday</td>
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<td><strong>Week 3</strong></td>
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<td>1/23</td>
<td><strong>Nuclear alternative</strong> Elliot, Ch. 5 and 6 (ERR) <strong>Memo</strong></td>
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<td><strong>Week 4</strong></td>
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<td>1/30</td>
<td><strong>Global air pollution</strong> McKinney and Schoch: Ch. 17 (ERR) <strong>Memo</strong></td>
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<td><strong>Week 5</strong></td>
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<tr>
<td>2/6</td>
<td><strong>Why are sustainable technologies not implemented?</strong> Nadel (ERR) Geller, Ch. 2 (ERR) <strong>Memo</strong></td>
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<td><strong>Week 6</strong></td>
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<td>2/13</td>
<td><strong>The Role of States and Cities in Energy Policy</strong> McGranahan (ERR) Rabe (ERR) Polasky (ERR) <strong>Memo</strong></td>
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<td><strong>Week 7</strong></td>
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<td>2/20</td>
<td>Class does not meet: Holiday</td>
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<td><strong>Week 8</strong></td>
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<td>1/04</td>
<td><strong>Introduction: Energy, Environment and Society</strong> Syllabus, Blackboard, Formation of Groups No readings assigned</td>
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<tr>
<td>1/11</td>
<td><strong>Coal use nationally and globally</strong> <a href="http://www.eia.doe.gov/cneaf/coal/page/acr/acr_sum.html">http://www.eia.doe.gov/cneaf/coal/page/acr/acr_sum.html</a> and <a href="http://www.eia.doe.gov/oiaf/ieo/pdf/coal.pdf">http://www.eia.doe.gov/oiaf/ieo/pdf/coal.pdf</a> <strong>Memo</strong></td>
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<td>1/18</td>
<td><strong>Oil supply and gas for oil markets</strong> Mitchell et al.: Ch. 3 and 5 (ERR) <strong>Memo</strong></td>
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<td>1/25</td>
<td><strong>Local air pollution</strong> McKinney and Schoch: Ch. 16 (ERR) <strong>Memo</strong></td>
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<tr>
<td>2/1</td>
<td><strong>Renewable and alternative sources, Hydrogen for cars</strong> McKinney and Schoch: Ch. 8 (ERR) Hoffman Ch. 6 (ERR) <strong>Memo</strong></td>
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<tr>
<td>2/8</td>
<td><strong>Energy Policy at the Federal Level</strong> Kubasek, Chapter 9 (ERR) Geller Ch. 5 (ERR) <strong>Memo</strong></td>
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<td>2/15</td>
<td><strong>Energy Information and public opinion</strong> Koomey et al. (ERR) Smith, Ch. 3 and 4 (ERR) <strong>Memo</strong></td>
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<td>2/22</td>
<td><strong>International Global Climate Change Regime and the U.S. Strategies</strong> Hovi, Stokke and Ulfstein (ERR) Victor (ERR) Rosencranz (ERR) Andreson (ERR) <strong>Memo</strong></td>
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<td>2/27</td>
<td>3/1</td>
<td>States’ Climate Change Policy: Quantitative study</td>
<td>Presentation</td>
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<tr>
<td>Week 9</td>
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<td>States’ Climate Change Policy: In-dept study Presentations</td>
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<tr>
<td>3/6</td>
<td>3/8</td>
<td>City Climate Change Policy Presentations</td>
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<td>Week 10</td>
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<td>Towards a Sustainable Energy Future Lovins et al. (<a href="http://www.oilendgame.com/">http://www.oilendgame.com/</a>)</td>
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Recommended/Optional Readings

Actors and Stakeholders in Energy and Environmental Policy

Electricity

Energy Conservation

Energy Economics and Politics

Energy and Environmental Policy


**Energy Technologies**


