Class Project for CH EN 6158 - Energy and Society

Summer 2014
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University Utah

General Requirements
Your project will evaluate the effects of a petroleum resource on society or analyze alternatives to fossil fuels. Your evaluation must cover the life-cycle impacts of this resource from its extraction, processing, use, disposal, and economics. It must include the effects on land, water, air, climate, and human health. If one or more of the impacts are not relevant for your evaluation, please state this in your report and your reasoning. It should also include your assessment of whether the use of this fuel resource is or should be increasing or decreasing. Please discuss your project topic with one of the instructors prior to working in earnest on it.

Your evaluation should be based on peer-reviewed literature, your own calculations/evaluations, and high-quality government or non-profit data/reports (such as, the Environmental Protection Agency, the Department of Energy, the Energy Information Administration, the International Panel on Climate Change, etc.). Discussions of uncertainties in the data/knowledge, as well as what you believe the most significant impacts are, are encouraged. You can use a few less official references, i.e., newspaper articles in your introduction, but your report should be based on more substantial research. You are welcome to discuss your topic with faculty or other experts in the field, but your report should be based on published data and your evaluations.

Assessment of Your Report
A rubric for the evaluation of your report is attached. The rubric includes the following criteria, along with several others.

- Thoroughness of the evaluation. Have you considered the most important impacts?
- Organization. Is your report well organized? Do your sources and methods support your results, which in turn support your conclusions?
- Requirements. Have you followed the formatting guidelines?

Formatting
The report must contain the following sections:

1. Executive Summary (1 page). Summarizing your evaluation, why it is important, the data sources/methods used in your evaluation, results, and conclusions. This should be written so that an intelligent person without extensive expertise in the subject could understand it.
2. Introduction (1 page maximum). Why is your topic important?
3. Data sources/methods (2 – 5 pages). Describe which impacts you are including in your analysis, why you included these, and your data sources. If you performed any of your own analysis, describe these. You can provide additional detail in the appendix if needed.

4. Results and discussion. Describe the results including which impacts you think are most important. This should lay the groundwork for your conclusions. Discuss whether the use of this fuel resource is or should be increasing or decreasing. Discuss uncertainties and gaps in the data if you are able to gather this information. If there are significant technological, economic, or policy barriers discuss these.

5. Conclusions/Recommendations. (1 – 3 paragraphs). Based on your research, what do you conclude and recommend? Should the US encourage/discourage this energy method? This should clearly follow from your results and discussion section.

6. References. Include a complete reference including authors, date, title, journal, issue and pages. For reports, list the author or organization, title, report number, date, and web address if available (and date cited). Do not simply provide a link to a report.

7. Length 12 – 15 pages including references.

8. 12-point font, 1.5 line spacing, 1” margins.

9. Appendices showing calculations, maps, or supplementary material are allowed. This should not exceed 10 pages.


Potential Project Ideas
- Comparison of corn-based ethanol to conventional crude oil for transportation use in the United States. Hint – GREET might be a good tool to use for this evaluation.
- Impacts of the natural gas boom on rural regions of the United States, including impacts to air, water, land use, and rural communities. Could you suggest any policy solutions to mitigate some of the adverse impacts?
- Development of oil sands resources in Utah. Does it make sense from an environmental and economic point of view?

Plagiarism and References
The “Student Code” provides the following definition of plagiarism (http://regulations.utah.edu/academics/6-400.php). “’Plagiarism’ means the intentional unacknowledged use or incorporation of any other person's work in, or as a basis for, one's own work offered for academic consideration or credit or for public presentation. Plagiarism includes, but is not limited to, representing as one's own, without attribution, any other individual's words, phrasing, ideas, sequence of ideas, information or any other mode or content of expression.”

References should be listed in alphabetical order or in the order in which they were cited, using a consistent style. References must be complete and specific, so that the reader can quickly locate the particular material cited. It is of great importance to identify clearly and to give proper credit
for quoted material. Your report grade will be based on your work and excessive quoting will detract from the grade. If you feel that material in a source is important, digest it and discuss it in your own words but be sure to state and reference the source used as a basis for your discussion. Plagiarism is unethical; do not copy any substantial amount of writing verbatim without enclosure in quotation marks and proper referencing of the source.

Instances of plagiarism will be handled in accordance with the Student Code.
Rubric for Evaluation of Project Report
University of Utah
Summer 2014 CH EN 6158 Energy and Society

Author:
Date:

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<tr>
<th>Outcomes</th>
<th>Weighting</th>
<th>Evaluation</th>
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<td>1. Clearly stated objectives.</td>
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<td>2. Technically accurate and rich. Thoroughness of the evaluation. Have you considered the most important impacts?</td>
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<td>3. Concise and well organized.</td>
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<td>4. Clear conclusions. Do your sources and methods support your results, which in turn support your conclusions?</td>
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<td>5. Effective use of equations, graphs, tables, and drawings with clear labels and correct spacing as well as explanation and discussion in text.</td>
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<td>6. Correct punctuation, grammar, usage, and spelling. Have you followed the formatting guidelines?</td>
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<td>7. Documented sources.</td>
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