

This group research project and presentation is being designed for my Introduction to Physical Science (PHS-101) course for use in the Fall 2013 semester. One of the key topics we discuss in this course is that of energy, all of its forms, the way we harness it and the way we use it as a society. We return to this discussion throughout the semester, as energy is a governing principle of all of the physical sciences. I also make time in this course to discuss the effects of our energy choices on society and the environment, and to discuss the difference between renewable and non-renewable sources of energy. I am creating this assignment to take that discussion a step further, and give the students the chance to do some independent research on a particular form of energy derived from fossil fuels, and look at both the pros and cons of its use. With this assignment, I am putting a special focus on the effects that the uses of this fossil fuel (a local refinery, for example), will have on the local community.

1. Greening Your Curriculum 201
2. Steven Merriman, PHS-101, Introduction to Physical Science
3. Long and Short Term Effects of Fossil Fuel Use Group Presentations
4. Relate the principles of physical science to daily experience, demonstrate an understanding that scientific knowledge changes with time as discoveries are made, improvement of personal critical thinking skills
5. Students will display an understanding of the harmful effects of using fossil fuels on the people in the surrounding communities, and gain a greater understanding of our need to move to a less harmful form of energy creation.
6. Students will utilize critical thinking skills in formulating the presentation, showcasing the research they have done, and displaying a deep understanding of the ins and outs of the effects their chosen fossil fuel will have after long term use.
7. This project will be relevant to the lives of the students as it is their generation that will have to act towards a greener, more renewable energy based society. (I have a few students who come from Blue Island (my home town), in which Clark Oil Refinery is under fire for the health effects that are now showing up on the community (for example, lymphoma and leukemia numbers well above the national average). I imagine many of them would like to take this opportunity to research that situation further.)

Assignment: Fossil Fuels and the Effects on the Surrounding Community

Project

Team: _____

Project

Choice: _____

Introduction

As a society, we rely on fossil fuels for the bulk of our energy consumption. In this assignment, you and a partner will research the cost behind the refinement and collection of these fossil fuels, with a focus on the effects it has on the community around it. Include both positive effects (job creation) and negative effects (health and environmental issues) behind the operation, and weigh the pros and cons. The question I would like you to answer in the end is whether or not the stability it provides to the current market is worth the long term cost in the health of the community and the environment around it.

Project

Working with a partner, choose any single aspect behind the collection or refinement of fossil fuels (examples include offshore drilling, drilling in protected lands, fracking, etc.). The assignment is to come up with a 6-8 minute presentation in which you will discuss the process behind your chosen aspect of the world of fossil fuels, weigh the pros and cons, and discuss whether or not, in your opinion, the short term gain is worth the long term issues it will create. Place a special emphasis on the effects on the community at large (job loss, health effects, long and short term issues). If you would like to discuss a particular refinement plant, or a particular situation that fits within these lines, you may do so with the consent of the instructor.

Requirements

The requirements of the project are as follows.

1. A 6-8 minute presentation (as described above).
2. A 2 page summary of the material being presented.
3. A minimum of four sources which meet the following criteria
 - a. Must be current (within the past 4 years).

- b. A max of two internet sources.
 - c. A minimum of one book source.
 - d. A minimum of one newspaper/magazine/journal article as a source.
4. Any violations of academic integrity will be handled as outlined in the course syllabus.
 5. Late assignments will not be accepted (without excused absence with proper documentation).
 6. The presentation can contain a video from YouTube (or other website/dvd), but it can be no more than 25% of the presentation time.
 7. All members of the group must contribute to both the creation of the presentation and its execution. Any member not participating will receive an automatic grade of 0.
 8. Have fun with it. You are in no way confined to using PowerPoint. Use any method of presentation your group can come up with.

Introduction to Physical Science

Project 2: Fossil Fuels Grading Rubric

Pros and Cons	What are the positive aspects of this form of fossil fuels? How about the negative aspects?	/20
Environmental Effects	What effects will this form of energy have on the environment around it? What issues will this create in the long term? Is it something that can be easily cleaned/repared?	/15
Community Effects	What are the short and long term effects on the community? How would closing the operation affect the local economy? What are the long term health effects on the citizens? Etc.	/20
How does it work?	How does this technology work?	/15
Overall Completeness	Were all topics covered in the presentation? Did the presentation show that all group members understood the material? Was the presentation thorough?	/15
Summary	Simply summarize the topics covered in your presentation in a 1.5-2 page paper (typed, 12 pt. font, 1.5 spacing)	/15
	Total	/100