

Systems, Society, Sustainability and the Geosciences
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Using Small Team Presentations to Examine Energy Production and Energy Utilization

What is my approach to teaching sustainability in an interdisciplinary context, and what is my approach to enhancing the integration and geoscience and sustainability?

An Energy Activity:

Although sustainability is a broad topic my primary focus is relates to energy production and utilization. I have found the following activity is helpful in terms of its ability to clarify the need to re-think energy utilization.

I provide the students with the following topics (all of these questions relate to energy in the United States of America):

1. Where does our energy come from (coal, natural gas, hydroelectric and etc.)?
2. What is the source country for each of our primary energy sources (where does coal come from, petroleum, electricity etc.)?
3. Where does energy go? That is, what is the outcome, the end use, of consuming all of the coal, natural gas, hydroelectric, petroleum, and etc.?
4. At what rate is energy consumption increasing for each of our energy types?
5. At what rate is energy production increasing for each of our energy types?

Presentations:-

Initially, the topics are discussed in class. Someone in the group may have an idea about an alternative topic that they feel is of interest. In other words we are starting with five topics, but if someone wants to talk about the growth rate of electricity generated using wind energy, this topic could be added to the list, but none of these five topics should be eliminated. We appoint ten two/three person teams, assigning one of the five topics above to each of the teams. With a class of 20 students we will have two teams on topic one, two teams on topic two, and so on ($5 \times 2 \times 2 = 20$ students).

The teams are given about a week to research the topics, and each team is given the following assignment. Provide the class with a two to three minute presentation (three minutes maximum) with a five to seven slide power point (seven slides maximum).

In class the team presentations should take about 30 minutes. No significant discussion is allowed until all presentations have been completed. When all presentations have been given the teacher starts an open discussion about the presentations. The ultimate outcome of this exercise is to have the group come to a consensus that energy consumption and utilization in the U.S is headed down a very deadly path. The discussion at the end of the presentations should be directed toward this end.