

Energy Sources

Part 1:

Your project is to select and investigate one of the energy sources listed below. You must build a model, create a poster board or design a power point presentation which demonstrates your chosen energy source. You will also write a summary of your project which includes a description of the energy source, the advantages and disadvantages of the energy source, the percentage of energy usage for that energy source in the United States and Connecticut. The summary must include a list of sources, including websites (address and date accessed). Finally, you will present your model, poster board or power point to the class.

Some support materials for the study of energy resources may be found at this website.

http://www.sde.ct.gov/sde/lib/sde/word_docs/curriculum/science/strand1stsrenewableenergyoriginalstudentmaterials.doc

Energy Sources:

Hydroelectric
Nuclear Power

Fossil Fuels
Nuclear fusion

Wind
Geothermal

Solar
Biomass

Part 2:

You have been provided with a spreadsheet containing some information about energy use and its sources in Connecticut from 1960 through 2000. Use this information and the Excel program to prepare a **line graph** showing the trends in the energy consumption/usage from the following sources: coal, natural gas, total petroleum, total fossil fuels, nuclear power, hydroelectric, and wood/waste over this time span. You may also manually prepare a graph using data from 10 year intervals. Do the trends support Connecticut's initiative to significantly decrease the use of non-renewable resources by the year 2010?

Write a 1-2 paragraph response to the above question.

Project Requirements:

- 1) The model, poster board or power point must be scientifically accurate
- 2) Written summary includes:
 - a) Description of energy source
 - b) Advantages and disadvantages of energy source
 - c) U.S. and Connecticut percentage usage of energy source
 - d) List of all sources used to obtain your information
- 3) Line graph of Connecticut energy usage
- 4) Paragraphs describing why or why not Connecticut has met its energy usage initiative.
- 5) Use Energy Project grading rubric to assess your own work.
- 6) Present model, poster board or power point to the class. (Presentation rubric attached)

Grading Rubric Energy Sources	5-14 Unsatisfactory	15-18 Poor	19-22 Good	23-25 Excellent	Total
Accurate Model and list of sources	The model/ poster board/power point poorly reflects the energy source. There are few or no sources listed and/or they are incorrectly formatted.	The model/ poster board/power point adequately reflects the energy source. Many sources are missing or incorrectly formatted.	The model/ poster board/power point generally reflects the energy source. Most sources are listed and most are correctly formatted.	The model/ poster board/ power point accurately reflects the energy source. All the sources are listed and correctly formatted.	
Description of energy source/ Advantages and Disadvantages/ US/CT usage	The summary includes a poor or missing description of the energy source; few or no advantages and disadvantages of the energy source; inaccurate US/CT usage numbers or none at all.	The summary includes an adequate description of the energy source; some of the advantages and disadvantages of the energy source; US/CT usage numbers but they may not be accurate.	The summary includes a description of the energy source. There may be minor omissions or errors; most of the advantages and disadvantages of the energy source; US/CT usage numbers.	The summary includes a complete and accurate description of the energy source; all of the advantages and disadvantages of the energy source; accurate US/CT usage numbers.	
Line graph	The graph does not include most of the information, is not a line graph.	The graph is missing some information, attempts to be a line graph.	There is a line graph which is adequate, missing only minor items.	There is a complete and properly labeled line graph.	
CT initiative response	The CT initiative response is poor or missing.	The CT initiative response is minimal.	The CT initiative response is accurate.	The CT initiative response is accurate and complete.	
				Total Points:	

Presentation Rubric Energy Sources	0-2 Unsatisfactory	3 Poor	4 Good	5 Excellent	Total
Organization	Audience cannot understand presentation because there is no sequence of information. Presentation is very short.	Audience has difficulty following presentation because student jumps around. Presentation is adequate length.	Student presents information in logical sequence which audience can follow.	Student presents information in logical, interesting sequence which audience can follow.	
Subject Knowledge	Student does not have grasp of information; student cannot answer questions about subject.	Student is uncomfortable with information and is able to answer only rudimentary questions.	Student is at ease with expected answers to all questions, but fails to elaborate.	Student demonstrates full knowledge (more than required) by answering all class questions with explanations and elaboration.	
Eye Contact	Student reads all of report with no eye contact.	Student occasionally uses eye contact, but still reads most of report.	Student maintains eye contact most of the time but frequently returns to notes or maintains eye contact only with teacher.	Student maintains eye contact with entire audience, seldom returning to notes.	
Elocution	Student mumbles, incorrectly pronounces terms, and speaks too quietly for students in the back of class to hear.	Student's voice is low. Student incorrectly pronounces terms. Audience members have difficulty hearing presentation.	Student's voice is clear. Student pronounces most words correctly. Most audience members can hear presentation.	Student uses a clear voice and correct, precise pronunciation of terms so that all audience members can hear presentation. Student is enthusiastic.	
				Total Points:	