

SPH 3U: Energy Resources Assignment

For this assignment, the students will be broken up into groups of three. Each students will read section 5.3 on *Energy Resources* of *Nelson Physics 11* on pages 169 to 177. After reading this section, each group will choose a type of energy source to study more fully.

Once agreeing on a type of energy, the group will create a poster that will outline this type of energy. This poster will include diagrams and text showing how this type of energy is produced along with places where this type of energy can be produced.

To go with the description of the energy production, the poster will also include a cost-benefit analysis. An outline of the cost energy analysis can be found on pages 184 and 185 of *Nelson Physics 11*.

Cost/benefit Analysis:

The cost/benefit analysis should identify both tangible and intangible project benefits. Quantify benefits whenever possible. Benefits may be expressed in terms of dollars saved, hours saved, turn-around time reduced (in weeks),etc.

At least two viable alternatives to solve the problem should be identified. These may include non-technology solutions. For example, compare:

- Current situation (do nothing) versus Implement technology
- Enhance current system versus Build new system
- Implement manual solution versus Implement technology
- Build from scratch versus Purchase a vendor solution

Each alternative should be analysed based on how well the alternative solves the problem and how much it costs. The alternative chosen should be identified and the choice justified.. The total project cost for each alternative needs to be identified. Identify the basis for the costs estimate.

The cost/benefit analysis should answer these questions:

- How much will this project cost to implement and maintain?
- How much will this project save?
- Is this the best approach to get the highest quality results for the lowest cost?
- Is this project worth doing?

After creating a poster containing all of these features, the each group will post their poster. The class will have a chance to study each of the posters. From their own research and from the information that the students learn from the posters, each student will be write their own report. The student will decide which energy source they think is the best. Their rational for making this decision will be included. In this report, various energy sources will be compared and discussed.

The groups will have two day to work on their poster. The poster will be due on October 29, 2008 and the individual reports will be due on October 30.