Assignment 5

**Top of Form**

**Bottom of Form**

**Renewable Energy**

Overview

Write 3–4 pages in which you outline the pros and cons of a selected method of energy production.

By successfully completing this assignment, you will demonstrate your proficiency in the following course criteria:

* + Assess basic environmental health principles, theories, and issues.
    - Assess the economic issues associated with renewable energy technology.
  + Analyze the impact of contaminants in the environment to human health.
    - Analyze the risks to human health associated with renewable energy technology.
  + Apply personal and professional decisions based upon an understanding of environmental risks.
    - Illustrate the positives associated with renewable energy technology.
    - Illustrate the negatives associated with renewable energy technology.
  + Communicate effectively in a variety of formats.
    - Write coherently to support a central idea in appropriate format with correct grammar, usage, and mechanics.

Context

Energy production is essential for our daily lives. Driving our cars, heating and cooling our homes, cooking food, working on computers—almost everything we do—requires energy. As petroleum prices have increased, interest in other energy sources has also increased. The Assignment 5 Context document provides a brief introduction to alternative energy sources. You may wish to review this document for key concepts and ideas on this topic.

Questions to Consider

To deepen your understanding, you are encouraged to consider the questions below and discuss them with a fellow learner, a work associate, an interested friend, or a member of the business community.

* + What is your opinion on nuclear power as a source of energy? What are the strengths in your position? What are the weaknesses?
  + If someone holds a different opinion about nuclear power than you have, what are the strengths in their position? What are the weaknesses?
  + Has the event at the Fukushima nuclear power plant in Japan influenced your opinion on nuclear power?
  + What were the immediate radiation concerns of the Fukushima disaster, and what are the ongoing issues with radiation? How widespread is the radiation pollution?
  + What are the strengths and weaknesses of wind, solar, geothermal, and biomass power?
  + Can renewable energy meet growing energy demands?
  + What are the potential environmental and health implications of fracking? Do you think it is a viable method to obtain more fossil fuel resources? Why or why not?

Resources

* + Assignment 5 Context.

Multimedia

* + Alternative Energies | Transcript.

Library Resources

* + Friis, R. H. (2012). *The Praeger handbook of environmental health*. Santa Barbara, CA: Praeger.   
    - Volume 1: *Foundations of the Field.*  
      * Chapter 20, "Renewable Energy."
    - Volume 2: *Agents of Disease.*  
      * Chapter 22, "Ionizing Radiation."
    - Volume 3: *Water, Air, and Solid Waste.*  
      * Chapter 25, "Pollution from Oil and Gas Development."
  + Philip, R. B. (2014). *Environmental issues for the twenty-first century and their impact on human health*. Sharjah, UAE: Bentham Science Publishers.   
    - Chapter 6, "Governments, Corporations and the Environment."
    - Chapter 7, "What Can Be Done: Are There Remedies?"
  + Rom, W. N. (2012). *Environmental policy and public health: Air pollution, global climate change, and wilderness*. San Francisco, CA: Jossey-Bass.   
    - Chapter 10, "Global Warming Science and Consequences."
    - Chapter 11, "National Green Energy Plan."
    - Chapter 12, "Climate Change Policy Options."
  + Anscombe, N. (2014, July). Getting to grips with shale gas. *Engineering & Technology, 9*(6), 70–73.
  + Li, J., Vishwanath, A., & Rao, H. (2014, January). Retweeting the Fukushima nuclear radiation disaster*. Communications of the ACM*, *57*(1), 78–85.
  + Mayo, O., & Masami, I. (2014, February). Reconstruction of the radiation emergency medical system from the acute to the sub-acute phases after the Fukushima Nuclear Power Plant crisis. *World Medical Journal, 60*(1), 2–8.
  + Morrison, F. (2014, February). Saving energy with cooling towers. *Ashrae Journal*, *56*(2), 34–40.
  + Siegel, F. (2014, June). The poverty of environmentalism. *Society*, *51*(3), 258–261.
  + Welsh, T. (2014). The future of energy production. *U.S. News Digital Weekly*, *6*(18), 16.
  + Ozzie Xehner: Alternatives to alternative energy [Interview]. (2012, September). *Bulletin of the Atomic Scientists*, *68*(5), 1–7.
  + Zhivov, A. M., Case, M., Liesen, R., Kimman, J., & Broers, W. (2014). Energy master planning towards net-zero energy communities/campuses. *ASHRAE Transactions*, *120*(1), 114–129.

Bookstore Resources

* + Hilgenkamp, K. (2006). *Environmental health: Ecological perspectives*. Sudbury, MA: Jones and Bartlett.
    - Chapter 11, "Energy." This chapter addresses concerns of fossil fuel use, alternatives to fossil fuels, and the concerns of alternate technologies.
    - Chapter 12, "Radiation." This chapter looks at possible sources of radiation exposure and the health implications of radiation exposure.

Assignment Instructions

The purpose of this assignment is to evaluate alternative energy sources and to understand that there are positives and negatives to the alternatives.

To begin this assignment, research a specific renewable source of energy. Then, in a 3–4-page report, outline the pros and cons of this method of energy production. To build your argument and support your evaluation, address the following:

* + Identify and analyze the economic considerations (such as the cost per kilowatt for large-scale renewable energy source, costs of construction, and so forth) of using this method of energy production.
  + What are the environmental benefits of this energy source?
  + What are the environmental downsides, if any, to this renewable energy technology?
  + Analyze the risks to human health associated with this technology.
  + What conclusions have you reached with regards to this topic, and why?

Additional Requirements

* + Written Communication: Written communication should be free of errors that detract from the overall message.
  + Length: This report should be 3–4 pages in content length. Include a separate title page and a separate references page.
  + Font and Font Size: Times New Roman, 12-point, double-spaced. Use Microsoft Word.
  + APA Formatting: Resources and in-text citations should be formatted according to APA (6th edition) style and formatting.
  + Number of Resources: You are required to cite a minimum of 3 scholarly resources. You may conduct independent research for resources and references to support your report. Provide a reference list and in-text citations for all of your resources, using APA format. You may cite texts and authors from the Resources.

Renewable Energy Scoring Guide

| CRITERIA | NON-PERFORMANCE | C | B | A |
| --- | --- | --- | --- | --- |
| Assess the economic issues associated with renewable energy technology. | Does not describe the economic issues associated with renewable energy technology. | Describes the economic issues associated with renewable energy technology. | Assesses the economic issues associated with renewable energy technology. | Analyzes and evaluates the economic issues associated with renewable energy technology. Discusses possible sources of funding the technology. |
| Analyze the risks to human health associated with renewable energy technology. | Does not describe the risks to human health associated with renewable energy technology. | Describes the risks to human health associated with renewable energy technology. | Analyzes risks to human health associated with renewable energy technology. | Analyzes and evaluates the risks to human health associated with renewable energy technology. |
| Illustrate the positives associated with renewable energy technology. | Does not list the positives associated with renewable energy technology. | Lists the positives associated with renewable energy technology. | Illustrates the positives associated with renewable energy technology. | Analyzes positives associated with renewable energy technology. |
| Illustrate the negatives associated with renewable energy technology. | Does not list the negatives associated with renewable energy technology. | Lists the negatives associated with renewable energy technology. | Illustrates the negatives associated with renewable energy technology. | Analyzes the negatives associated with renewable energy technology. |
| Write coherently to support a central idea in appropriate format with correct grammar, usage, and mechanics. | Does not write in support a central idea in appropriate format. Does not use correct grammar, usage, and mechanics. | Writes in support of an idea with consistent format, but includes major errors of grammar, usage, and mechanics. | Writes coherently to support a central idea in appropriate format with correct grammar, usage, and mechanics. | Writes coherently, using evidence to support a central idea in a consistently appropriate format, with correct grammar, usage, and mechanics. |