

Energy Resources Concept Questions

1. How have the fuels used to power homes, industry, and transportation changed from the beginning of the Industrial Revolution to the present?
2. How does the price of oil influence the amount produced?
3. What responses were made to the “oil crisis” of the 1970s? Why weren’t those initiatives continued? Do you think something similar is happening now?
4. Although fossil fuel energy may seem the cheapest on the surface, what are the hidden health and environmental costs associated that most people do not see?
5. Describe some advantages and disadvantages of each of the fossil fuels.
6. Although Canada has slightly higher gas prices than the US, some European countries have gas prices that are 3-4x that of the US. Why do you think prices are so different in Europe? What do you think about gas prices here in Canada? Are high gas prices good or bad for the environment?
7. List all the environmental impacts that occur during the “lifespan” of gasoline. That is, from exploratory drilling to the consumption in a car.
8. The New Brunswick provincial government was looking at a \$30 million plan to expand the MacKay highway to ease traffic congestion. Do you think this is a good idea? What would be some more environment friendly solutions?
9. Imagine that you see an ad by AECL on TV describing nuclear power as a safe, environment-friendly energy source. What would your reaction be?
10. Outline the advantages and disadvantages of the alternative fuels we discussed.
11. What are the basic problems of harnessing solar energy? What are the barriers to more widespread use of solar power in homes?
12. How could we improve the use passive solar energy for heating our school?
13. Consider all the energy needs in your daily life. Describe how each might be provided by a solar option.
14. Discuss the possibility of hydrogen being used to meet the fuel needs in the future.
15. What is your opinion on increasing our use of hydroelectric power?
16. What do you feel is the potential for wind power in the future? What are the concerns about wind power?
17. Give the advantages and disadvantages of converting biomass to useful energy? What kinds of biomass could be used in New Brunswick?
18. Which alternative energy sources do you think are most feasible in New Brunswick?
19. What can you do in your own life at home and at school that could conserve energy?
20. Imagine you are offered a home solar energy system that costs \$10,000 and would save you \$1,000 each year. Would you take it? If the cost were higher and the payoff time longer, what is the threshold at which you would not buy the system? Explain your reasons.
21. The most common reason cited by government for the lack of environmental policy is the loss of jobs and damage to the economy. What are your thoughts about this?
22. Describe some ways that the Canadian government and consumers could promote the use of renewable energy, thereby reducing pollution.
23. What is the greenhouse effect? How does it work?
24. How does the combustion of fossil fuels influence the greenhouse effect?
25. What is climate change? What are some observable changes that we have seen in our climate?
26. What is a carbon sink and a carbon source? Is it possible for something to be both?