

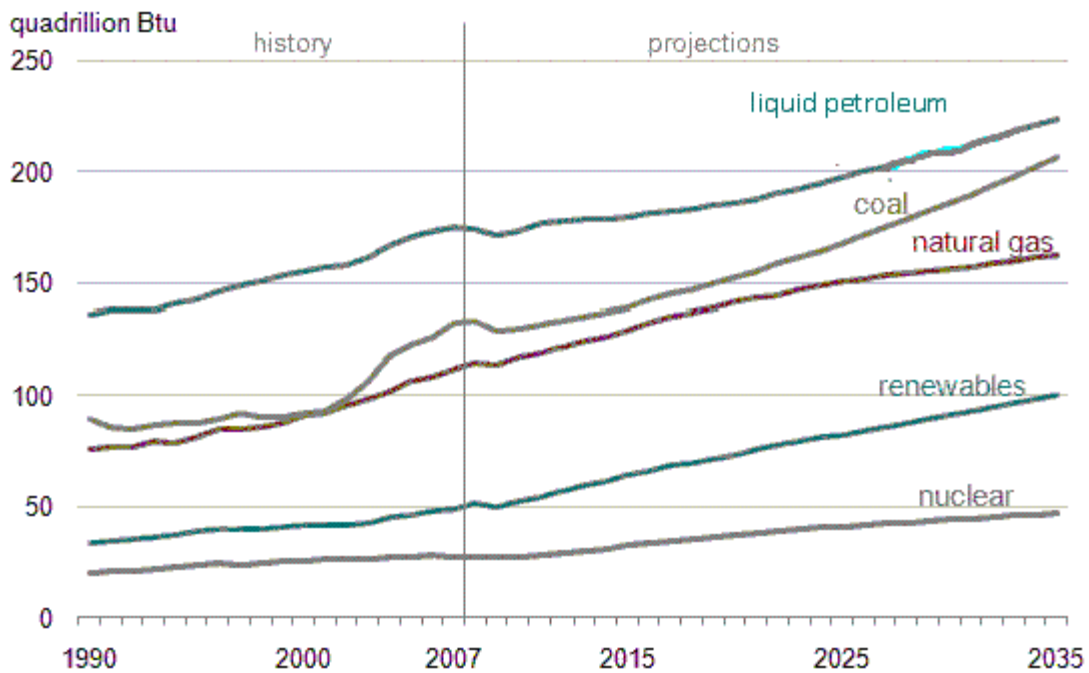
## Chapter 12: Nonrenewable Energy Resources

### MULTIPLE CHOICE

The following chart displays world marketed energy consumption based on a reference case developed by the US Energy Information Administration in which the energy consumption increases by 49% from 2007 to 2035.

Figure 12-1

Figure 2. World marketed energy use by fuel type

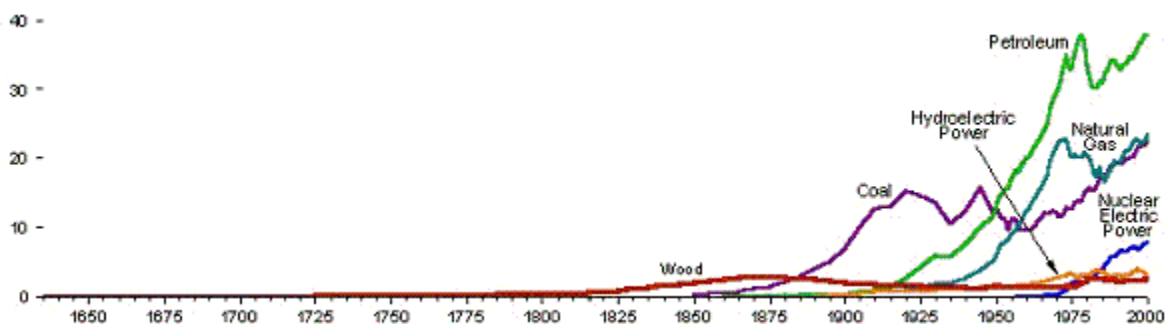


[Source: <http://www.eia.doe.gov/oiaf/ieo/highlights.html>]

1. Use Figure 12-1. The chart projects the greatest rise from 2007 to 2035 in the use of \_\_\_\_\_ to provide energy worldwide.
  - a. liquids
  - b. coal
  - c. natural gas
  - d. renewables
  - e. nuclear power
2. Use Figure 12-1. The chart projects the smallest rise from 2007 to 2035 in the use of \_\_\_\_\_ to provide energy worldwide.
  - a. liquids
  - b. coal
  - c. natural gas
  - d. renewables
  - e. nuclear power

3. Use Figure 12-1. Which of the following statements is reasonable, according to the information in the chart?
  - a. Nuclear power will provide more energy than renewables by 2050.
  - b. By 2050, fossil fuels will no longer provide the majority of the world's energy.
  - c. In 2000, natural gas provided about as much energy as coal.
  - d. Renewables will be the largest source of energy in the near future.
  - e. The use of nuclear energy is decreasing over time.
4. Use Figure 12-1. The projected rise in the use of coal as an energy source is best explained by
  - a. the use of coal in developing countries such as China and India
  - b. the use of coal in developed countries
  - c. the lack of technology advancing the use of renewables
  - d. better surface mining techniques worldwide
  - e. a moving away from the use of fossil fuels

**Figure 12-2**



[Source: <http://www.eia.doe.gov/emeu/aer/eh/eh.html>]

5. Use Figure 12-2. For the majority of the history of the United States, the predominant fuel source has been
  - a. petroleum
  - b. natural gas
  - c. coal
  - d. wood
  - e. nuclear
6. Use Figure 12-2. The use of petroleum as a fuel rose dramatically due to all of the following except
  - a. its relative ease of extraction
  - b. its relative ease of transportation
  - c. its use as a transportation fuel
  - d. its relatively inexpensive cost
  - e. its abundance in the contiguous United States
7. Use Figure 12-2. The drop in the use of coal as a fuel in the 1940s corresponds to a rise in the use of \_\_\_\_\_.
  - a. natural gas
  - b. nuclear power
  - c. hydroelectric power
  - d. wood
  - e. wind power

8. Use Figure 12-2. The rise of the use of coal from 1975 to 2000 can be explained by all of the following except
  - a. the manufacture of coal-burning power plants
  - b. the high net energy of coal
  - c. the abundance of coal in the United States
  - d. the environmental standards enacted on coal burning power plants
  - e. the relatively inexpensive cost of coal
  
9. Reasons for which petroleum is the chosen fuel for transportation in the U.S. include
  - I. Its energy value per unit volume
  - II. Its ability to quickly start or stop providing energy
  - III. Its low amount of pollution produced per Joule
  - a. I only
  - b. II only
  - c. III only
  - d. I and II only
  - e. I, II, and III
  
10. The fossil fuel(s) that pose risks to the environment include
  - I. coal
  - II. natural gas
  - III. petroleum
  - a. I only
  - b. II and III only
  - c. I and III only
  - d. I and II only
  - e. I, II, and III
  
11. When supplies of a particular energy type are finite, it is known as a
  - a. renewable resource
  - b. potentially renewable resource
  - c. nonrenewable resource
  - d. nondepletable resource
  - e. perpetual resource

**Figure 12-6**

<b>Energy Source</b>	<b>EROEI</b>
Coal at the mine	30
Oil	23
Natural Gas	
Onshore	10
Offshore	7
Nuclear power	4

12. Use Figure 12-6. The EROEI for a number of fuel sources is given in the table above. Which would be the most energy efficient?
- Nuclear power
  - Coal
  - Oil
  - Onshore Natural Gas
  - Offshore Natural Gas
13. Why is a gas water heater more energy efficient OVERALL than an electric water heater when the electricity comes from a coal-fired power plant?
- the electric water heater has a lower direct efficiency
  - the energy efficiency of the coal-fired power plant is low
  - natural gas does not need to be transported
- I only
  - II only
  - I and II only
  - II and III only
  - I, II, and III
14. Which of the following represents the correct sequence of energy resource use as the United States progressed from the late 1800s to the 1950s?
- wood, coal, oil, natural gas, hydroelectric
  - coal, hydroelectric, natural gas, oil, wood
  - wood, oil, natural gas, hydroelectric, coal
  - wood, coal, oil, natural gas, hydroelectric
  - coal, wood, hydroelectric, natural gas, oil
15. The United States imports approximately what percent of its energy needs?
- 3%
  - 10%
  - 23%
  - 30%
  - 40%