

Focus Questions Chapters 15-16

Chapter 15

- How has energy use changed over the course of human history? (15-1)
- Compare and contrast the division of United States energy sources with division of world energy sources. What accounts for the differences? (15-1)
- How do we evaluate energy sources? What energy sources give us the most net energy and which provide the least? (15-1)
- How is oil processed and what compounds can be derived from petroleum? (15-2)
- What is OPEC and what makes them so powerful in the energy market? (15-2)
- What problems does the US face in regards to its oil supply and what are potential solutions? (15-2)
- Explain the controversy surrounding the Arctic National Wildlife Refuge (ANWR). (15-2)
- What are the advantages and disadvantages of conventional oil? (15-2)
- What are the advantages and disadvantages of oil sands and shale oil? (15-2)
- What are the advantages and disadvantages of natural gas? (15-3)
- What are the advantages and disadvantages of coal? (15-4)
- What are the advantages and disadvantages of nuclear energy? (15-5)
- Briefly explain the Three Mile Island and Chernobyl incidents. (15-5)
- What unique problems are associated with the byproducts of nuclear energy? How are nuclear wastes dealt with currently? (15-5)

Chapter 16

- What are some specific ways energy is wasted in the United States? (16-1)
- Explain specific ways industry has/can reduce energy waste? (16-2)
- What are CAFE standards and how can they be used to help solve our energy problems? How does the US compare to other nations in our transportation waste? (16-2)
- What technologies are being pursued to decrease our transportation energy waste? (16-2)
- Explain some ways we can better design buildings to reduce energy consumption. (16-2)
- Explain ways existing buildings can be converted to use less energy. (16-2)
- What economic roadblocks are there to greater use of renewable energies? (16-2)
- What are the advantages and disadvantages of solar energy? (16-3)
- Explain the differences between passive and active solar heating. What situations would be most advantageous for each? (16-3)
- What different ways can solar energy be harnessed? (16-3)
- What are the advantages and disadvantages of hydropower? Provide examples of the different ways energy can be harnessed from falling and flowing water. (16-4)
- What are the advantages and disadvantages of wind energy? (16-5)
- What are the advantages and disadvantages of energy derived from biomass? (16-6)
- What are different ways energy can be generated from biomass? (16-6)
- What are the advantages and disadvantages of geothermal energy? (16-7)
- What are the advantages and disadvantages of hydrogen as a fuel source? (16-8)
- How can the government cause a shift to more renewable energy sources? (16-9)

Key Terms

Chapter 15

coal (p. 382)

crude oil (p. 375)

liquefied natural gas (LPG) (p. 381)

liquefied petroleum gas (LPG) (p. 381)

natural gas (p. 381)

net energy (p. 374)

nuclear fusion (p. 394)

oil sand (p. 379)

petrochemicals (p. 375)

petroleum (p. 375)

shale oil (p. 380)

synthetic natural gas (SNG) (p. 386)

tar sand (p. 379)

Chapter 16

active solar heating system (p. 411)

biofuels (p. 422)

cogeneration (p. 402)

combined heat and power systems (p. 402)

energy conservation (p. 400)

energy efficiency (p. 400)

geothermal energy (p. 426)

passive solar heating system (p. 411)

photovoltaic (PV) cells (p. 414)

solar cells (p. 414)