Introduction

Human interaction with the natural environment has degraded the land, air, and water that sustain life on earth. Environmental problems are especially acute in Europe because it is the world's most densely populated continent.

Air Pollution

The air of Europe is polluted by emissions from factory smokestacks, home chimneys, and automobiles. The problem was worse a few decades ago when the most commonly used fuel in homes and industries was coal. Emissions from burning coal are especially polluting because they include ash and hydrocarbons that are converted by sunlight into smog. Under certain weather conditions, smog can lay over the land, blot out the sun, and cause deaths, especially among people with respiratory problems. Four thousand people died in London in 1952 because of killing smog. Noxious emissions when combined with atmospheric moisture can result in acid rain that has killed or damaged trees in the forests of Scandinavia, Germany, and Eastern Europe. Though progress has been made in reducing smokestack and chimney emission by conversions to oil or natural gas, the number of automobiles on the road has increased resulting in more traffic jams (a form of urban pollution) and an increase in tailpipe emissions.

Water Pollution

The rivers of Europe are polluted by factories dumping used chemicals and other forms of waste, cities dumping untreated or inadequately treated sewage, and run-offs of pesticides from farms. The wastes and run-offs foul the rivers and flow into the seas. The flushing action of currents and tides keep the coastal waters of the Atlantic Ocean and North Sea relatively clean; however, the Baltic Sea, Black Sea, and Mediterranean Sea are almost enclosed bodies of water where pollution builds up. Because of water pollution, fish die, algae grow, rivers smell bad, beaches are closed, and municipal water supplies must be heavily chlorinated. Europe has made progress in reducing water pollution by curtailing industrial dumping and building effective sewage treatment plants.

Pollution in Eastern Europe

The problems of air and water pollution are especially acute in Eastern Europe. The nations when under communist rule paid little attention to air or water pollution. Air pollution remains a major problem in Eastern Europe where coal continues to be commonly used as a fuel. Since 1990, nations of Eastern Europe have closed down many inefficient and highly polluting industries and made some attempts toward cleaning up the rivers. However, their efforts are hampered by the long history of neglect, ineffective governments with entrenched bureaucracies, and depressed economies. The transition from command economies to free markets disrupted national economies, and national leaders have been more concerned with creating jobs than with cleaning up the air and water.

Oil Spills

Another form of pollution is oil spills that foul beaches and kill birds and fish. Millions of barrels of oil are carried in tankers from the Middle East to Europe every day. Tankers have struck sandbars or collided in the most crowded merchant sea-lanes in the world. In recent decades, major oil spills have occurred off the coasts of England, Wales, Scotland, Spain, and Sweden. In 1977, a major spill resulted from a blowout on an oil-drilling platform in the North Sea.

Nuclear Fuels and Radioactivity

The attempt to ease one pollution problem has caused the potential of another. Many nations of Europe have built electricity-generating plants using nuclear fuels to replace air polluting coal-fired plants. Europe has 43% of the world's nuclear reactors; some nations rely heavily on nuclear plants for their electricity. France is most dependent, producing close to 80% of its electricity using nuclear power. However, nuclear fuels wear out and must be replaced. The safe disposal of radioactive fuels is an increasing problem. And, though the part of the European continent studied here has not had a major nuclear accident, the potential exists, especially as nuclear plants become older. Poland and the Scandinavian nations suffered radioactive fallout because of an explosion in a nuclear power plant in Chernobyl, Ukraine in 1986. Milk had to be dumped and many farm animals in those countries had to be destroyed because they grazed on fields contaminated by the radioactive fallout that drifted to the northwest from Chernobyl. A major nuclear accident in Japan in 2011 (precipitated by an earthquake followed by a tsunami) has caused Germany and Switzerland to decide to phase out their nuclear reactors.

International Treaties

Because air and water pollution does not stop at national boundaries, improvement of the environment requires international cooperation. A number of treaties have been ratified by European nations. Among them are treaties titled The Law of the Sea, Climate Change, Air Pollution, Hazardous Waste, Marine Dumping, Marine Life Conservation, Nuclear Test Ban, and Ozone Layer Protection. In 1997, the United Nations convened an international meeting on global warming. What has become known as the Kyoto Protocols set goals to reduce emissions that contribute to the greenhouse effect that may cause global warming. European leaders signed the treaty, but ratifications are pending further negotiations because of the objections of the United States to portions of the agreement.

Movements to Protect the Environment

The European Union has adopted environmental regulations for its members that have more effective enforcement provisions than international treaties. The European Environment Agency has responsibilities similar to that of the Environmental Protection Agency of the United States. There is also a political movement in Western Europe that works on environmental issues. The goals of the Green Movement are to lower levels of resource consumption and to promote sustainable environments. They also work to prevent development projects that are environmentally damaging. The name of the movement may be misleading because its members do not only work on preserving wild and scenic places. The Green Movement has formed political parties that have become significant political forces in some European countries.

1. What are the main causes of air pollution?
2. What are the effects of air pollution?
3. Explain why the seas around Europe are especially subject to pollution.
4. Why do many people believe that using nuclear reactors are not the answer to Europe’s energy needs?
5. How can Europe’s air and water pollution be reduced?
6. Why does Eastern Europe have more air and water pollution than Western Europe?