

ENVIRONMENTAL ISSUES IN EUROPE

Standard: SS6G9

Environment Concerns

Every country on our planet faces environmental issues. Europeans are especially concerned about several of these issues since farmers use almost half of the entire land available in Europe. So, protecting their land is very important.

Rain, Rain, Go Away!

Many of the environmental problems in Europe have come about because of poor practices in the past by local industries. Industry has made many countries wealthy, but has also had some terrible effects on the environment.



One example is the problem of **acid rain** in Germany. What is it? **Acid rain is rain polluted by gases released into the air by the burning of fossil fuels, like coal or oil.** In the first half of the 1900s, the former country of East Germany burned massive amounts of brown coal (or lignite) to produce electricity. When burned, brown coal gives off a gas called sulfur dioxide. This gas mixes with moisture in the air, so when it rains, the rain is polluted with sulfur dioxide.

Some of the effects of acid rain are:

- taken a terrible toll on Germany's forests. Experts estimate that more than one-half of Germany's trees have been damaged or killed by acid rain
- pollutes rivers and lakes, killing fish as well as the plants and microscopic organisms that fish need to survive
- eats away at brick and stonework buildings. Experts say that some buildings are losing up to 4 percent of their weight each year from acid rain damage.

Acid rain in Germany is a concern for all Europeans and for people around the world. Brown coal is still Germany's chief domestic source of energy, meeting one-quarter of the country's energy needs. Therefore, Germany has made strict changes to its coal production practices and closed old, inefficient factories.

Germany has also put strict laws in place to reduce pollution. Factory owners are fined if they do not reduce the amount of sulfur dioxide they emit into the air. Cars must have a special converter fitted to the exhaust system, and the government is working to change over to less polluting fuels like oil and natural gas. Today, improving the environment is a top issue in German society!



Air Pollution in the United Kingdom



Air pollution is a concern in the United Kingdom (UK). In the past, it was caused mainly by emissions from factories or from homes burning coal for heat. The pollution mixed with the fog that occurs frequently in the UK. The resulting **smog** hovered over cities, leading to 4,000 deaths in the Great London Smog of 1952.

Today, the UK's air pollution is mainly caused by emissions from cars and trucks and from ozone. Pollutants from cars include carbon monoxide and nitrous oxides. They hover close to the ground, contaminating the air people breathe. Ozone adds to the problem, forming when air pollutant mix and react with sunlight to form smog. Air pollution can lead to many health problems.

The UK has been working hard to reduce air pollution since the Great London Smog occurred. The government has tightened emissions standards for vehicles, endorsed the use of cleaner fuels, and urged citizens to use public transportation like buses and subway systems.



Nuclear Disaster in Ukraine



The worst nuclear reactor disaster in history happened in Europe. In April 1986, a nuclear reactor exploded at the Chernobyl nuclear power plant in Ukraine. At the time, Ukraine was part of the Soviet Union, which dissolved in 1991. Toxic radioactive material shot into the air and drifted over western parts of the Soviet Union, Eastern Europe, and Scandinavia. Fallout (radioactive particles falling to the ground) contaminated about 100,000 acres, including the animals, crops, and forests on the land. About 135,000 people

were evacuated and resettled in other areas. About 30 people died in the blast, and thousands more who cleaned up the site died later from radiation poisoning.

The main environmental effects of the disaster have been contaminated farmland, surface water, and groundwater. Today, the area around the Chernobyl nuclear plant is considered one of the most polluted places on Earth. Although the reactor was buried in a concrete casing designed to absorb radiation, experts fear leakage into the nearby ground water, and are working to re-contain the site. No one knows exactly how many illnesses and cancers have been caused by this disaster, but about 4,000 children in the fallout zone have been diagnosed with thyroid cancer in recent years. Ukraine and Belarus have spent huge amounts of money on cleanup efforts.

Quick Review

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Answer the following questions



1. Match the vocabulary word with the correct definition.

_____	nuclear power	A	a visible haze of air pollution over cities; a mixture of smoke (pollution) and fog.
_____	acid rain	B	generates electricity using the heat produced when atoms are split
_____	smog	C	rain mixed with pollutants in the air

2. Put a check mark next to each problem caused by acid rain Germany.

<input type="checkbox"/> Trees damaged or killed	<input type="checkbox"/> Lakes and rivers polluted
<input type="checkbox"/> Fish died	<input type="checkbox"/> Average temperature getting colder
<input type="checkbox"/> Brick and stonework buildings damages	<input type="checkbox"/> Fewer schools built

3. Next to each item below, write what that entity is doing to help the acid rain and pollution problem in Germany.

Factories	
Cars	
Government	

4. Write F for fact and O for Opinion

- _____ Air pollution is the biggest problem faced by citizens of the UK.
- _____ The Great London Smog was the saddest even in UK history.
- _____ The UK's air pollution problem today is caused by vehicle emissions and ozone.
- _____ Ozone forms when air pollutants interact with sunlight.
- _____ The UK government is not doing enough to reduce pollution.
- _____ The UK government has tightened emissions standards for vehicles to help reduce pollution.

5. The worse nuclear disaster in history occurred at the _____ nuclear power plant in _____.

6. True or False? Radioactive material from the blast stayed within 20 miles of the nuclear plant. _____

7. Some environmental effects of the disaster include contaminated _____, _____, and groundwater.

8. True or False? The concrete casing around the reactor is guaranteed never to leak.

9. True or False? Many cases of cancer have been linked to this disaster. _____

10. Label the picture below showing how acid rain is created.

