

## Introduction

Coal, oil and natural gas are called fossil fuels. Fossil fuels are burned to make energy. Burning fossil fuels also releases CO<sub>2</sub> (carbon dioxide) gas into the atmosphere. Most air pollutants (such as sulfur dioxide) don't stay in the atmosphere very long. CO<sub>2</sub> is different. Much of it stays in the atmosphere for over 100 years, until it is finally absorbed by the ocean.

CO<sub>2</sub> is found naturally in the earth's atmosphere. When we breathe in oxygen, we breathe out CO<sub>2</sub>. Plants use CO<sub>2</sub> to grow.

CO<sub>2</sub> is a "greenhouse gas." It traps heat from the sun and helps make the earth a pleasant place to live. If too much CO<sub>2</sub> is in the air, it will trap too much heat. The temperature of the earth will increase. This is called "global warming" or "climate change." This may lead to a hotter, dryer climate, more intense storms, more floods and droughts, and rising sea levels. The change in climate can have an effect on crops, plants and animals.

Humans have burned ever-growing amounts of coal, oil and natural gas (fossil fuels) over the past few hundred years. This has caused the amount of CO<sub>2</sub> in the earth's atmosphere to increase. There is about 30% more CO<sub>2</sub> in the atmosphere today than there was a few hundred years ago. The amount continues to grow ever more rapidly.

Power plants that use fossil fuels to make electricity release the most CO<sub>2</sub> of all man-made sources.

In Pennsylvania (PA), we get most of our electricity from burning fossil fuels (coal and natural gas). Coal plants in PA make 53% of PA's electricity and natural gas plants make about 8%. Nuclear plants make 35% of our electricity. The pie chart shows this break down.

