

## Pollution Prevention: The Basics

*Pollution prevention, or P2, is a way of looking at what causes waste and pollution and then figuring out the best way to reduce the pollution before it is created. Historically, people looked for ways to control pollution after it was created.*

Treating wastewater, filtering air emissions, and creating landfills for solid waste are all methods of controlling pollution after it has been created. Pollution prevention means avoiding pollution at the source rather than trying to control it afterward. This also is called source reduction. We should always try to reduce waste first, and then recycle. This approach can benefit the environment and save money.

### How does P2 work?

All pollution is waste. Waste is simply material that is not being used efficiently. Pollution prevention identifies activities or areas in processes where wastes don't need to be created, such as: efficiency improvement; material substitution (more toxic materials being replaced with less toxic ones); and energy, water or other raw materials savings. These ideas apply to our daily activities as well as to businesses.

Pollution costs money. Traditionally, producers, consumers and law makers have considered only the cost of treating and disposing of pollution. Pollution is not only expensive to treat, but it also takes energy and labor to make it in the first place. In the long run, it costs less to avoid waste than to dispose of it.

### The P2 Hierarchy

It is not practical to implement pollution prevention everywhere, all at once. The P2 Hierarchy, shown on the right, puts waste reduction priorities in the following order: source reduction; environmentally sound recycling; treatment to reduce toxicity and volume; and as a last resort, disposal.

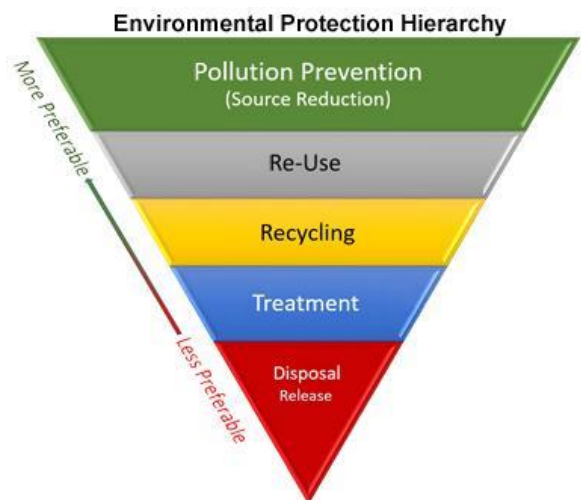
Always ask, "What can I do to reduce waste at the source first?"

### What is not P2?

Controlling or treating pollution is NOT pollution prevention. When wastewater from homes or factories is treated, the water is cleaner, but the factory is left with a by-product that must be disposed of, usually on land. When an electric power plant runs scrubbers to clean the waste coming out of the smokestacks, they are left with thousands of tons of waste products. Even trash and wastewater from our homes could contain toxic materials that are eventually disposed of on land. Many materials disposed of on land eventually end up in ground water and in our waterways.

Pollution control and treatment often moves the pollution from one environmental medium (air, water, land) to another. This is what is known as cross-media transfer of waste. The same amount of waste is created, but we simply are moving it from one place in the environment to another.

In some cases, the volume or toxicity of the waste has been reduced, or the movement of the waste in the environment has been reduced. However, the same amount of waste is generated at the source. Pollution (or waste) treatment still causes environmental damage, and costs a lot of money, time and energy to implement. Most importantly, the pollution was created in the first place.



Courtesy of U.S. EPA

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## Where does energy fit into P2?

Our society depends on energy. Energy use is one of the largest sources of waste and pollution. Emissions from fossil fuel power plants, automobiles, strip mining and nuclear waste are all pollution that results from energy use. P2 promotes increasing our reliance on renewable energy sources, such as solar, geothermal and biofuels (crop-based fuels).

Pollution prevention programs look for ways to improve energy efficiency in everything from heating and air conditioning to more efficient automobiles, electric motors and lighting. Energy efficiency reduces pollution to air, water and land.

## P2 and Sustainability

Very little in nature is wasted, and waste from one organism almost always is useful to another. We can say that nature is self-sustaining. Humans have chosen a non-sustainable approach. Our lifestyle depends on a constant flow of new natural resources from the earth. Eventually we will begin to run out of resources. We must learn to eliminate waste, recycle resources and develop sustainable sources of energy. By using P2, we help make energy and resource use more sustainable.

## Where do I fit into P2?

Pollution prevention does not stop at the factory. The people who are buying products also must consider how much waste is generated by using a product. There are many ways consumers can minimize waste production, such as:

- only buying things we really need;
- reducing energy consumption;
- buying reusable products rather than disposable ones;
- conserving water;
- using products made with less toxic materials;
- buying products without wasteful packaging;
- reusing and repairing things instead of throwing them away;
- recycling; and
- buying goods made from recycled materials.

Reducing waste reduces pollution and our reliance on natural resources. The less waste we generate, the more resources we will have for everyone, and at a lower cost to our economy.

## Where to Get More Help

Ohio EPA's Office of Compliance Assistance and Pollution Prevention (OCAPP) can help you. OCAPP also offers free on-site P2 assessments and has extensive resources available with technical information to help you identify ways to reduce waste and save money. For more information, visit [epa.ohio.gov/defa/](http://epa.ohio.gov/defa/) or contact us at (800) 329-7518.