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Pollution Control Devices

The Past of Pollution Control Devices

Pollution control has been a struggle for centuries. As early as the 13th century, air pollution was a problem. This problem got worse with the Industrial Revolution, which started in the 1700s. During the Industrial Revolution, technology got better. But that caused more air and water pollution. Such pollution still causes dirty air and water, health issues, climate change, and extinctions. **Pollution control devices**¹ are

Did You Know?

In the 1940s and 1950s, thousands of people were killed and thousands more got sick because of air and water pollution.



Water pollution can cause severe health problems.

tools used to reduce pollution and its dangers. Pollution control became a major goal in the United States when the Environmental Protection Agency (EPA) started in 1970. New laws were passed for air and water quality. There have been improvements in pollution control devices and pollution laws in recent years. However, many countries can't afford pollution control and/or don't have good enough laws. This means that some families have

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This article will cover two current pollution control devices.

Two Pollution Control Devices and How They Work

There are many pollution control devices that have helped to bring down air and water pollution. They include **sewage treatment plants** and **thermal oxidizers**. However, these are just an

¹ **Pollution control devices:** tools used to reduce pollution and its dangers.

example of the many other pollution control devices currently in use, including catalytic converters, filters, settling chambers, cyclone collectors, and scrubbers.

Sewage treatment plants² allow sewer water to be recycled.

Without sewage treatment plants, much more water would be polluted. Wastewater from towns and cities is collected and sent underground to the treatment plant. At the plant, mud and dirt are first filtered out of the water. The water then flows to another set of tanks, where about 60% of larger solid wastes fall out. This leaves a layer of sludge on the tank



Sewage treatment facilities reduce water contamination.

bottom. Grease and oil float on top of the water and are scraped off and carried to the bottom. The scrapers that collected the grease and oil also push the sludge into pumps. Finally, oxygen is sent into the rest of the sewage water to grow microbes, which eat wastes. The water that is left is then cleaned, and the clean water is sent to a nearby body of water. The sludge (mud, dirt, and solid

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The Present of Pollution Control Devices

Pollution control devices are used in many ways in the United States. Since the Clean Air Act (1970) and Clean Water Act (1972), more laws for business and car pollution in the United States have been passed. These new laws mean fewer deaths from environmental accidents. Pollution control devices have also helped to bring down and even reverse some effects of climate change.

² **Sewage treatment plants:** underground pollution control devices that allow wastewater to be recycled.



In Vietnam, many people wear masks to protect themselves from air pollution.

But not all countries have strict laws or pollution control devices. For example, many people in China and Vietnam have to wear masks so they don't get sick from polluted air. With more education about pollution control, governments can make new laws and people can make smart decisions about their own lives.

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The Future of Pollution Control Devices

Future improvements may make pollution control both better and cheaper. Many companies are racing to be the first to invent the next big pollution control device. Cleaner air and water will only further bring down pollution-related deaths and health problems.

Reading Comprehension Questions

1. What are
2. What are pollution control devices?
3. When
4. Name three pollution control devices.
5. What

Extension Questions

6. Are there any
7. Choose a pollution control device not covered in this reading. Using a template from [canva.com](https://www.canva.com), create an infographic about your chosen device. Include what it does, how it works, where it is used, and what kind of pollution it reduces.

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References

- Clark, J. (2016). "Definitions of Oxidation and Reduction." *LibreTexts*. Retrieved May 15th, 2017 from https://chem.libretexts.org/Core/Analytical_Chemistry/Electrochemistry/Redox_Chemistry/Definitions_of_Oxidation_and_Reduction.
- Crandall, R.W. (2008). "Pollution Controls." *The Concise Encyclopedia of Economics*. Retrieved May 15th, 2017 from <http://www.econlib.org/library/Enc/PollutionControls.html>.
- History.com staff (2009). "Water and Air Pollution." *History.com*. Retrieved August 16th, 2016 from <http://www.history.com/topics/water-and-air-pollution>.
- "How the Sewer System Works." (2012) *Massachusetts Water Resource Authority*. Retrieved August 16th, 2016 from <http://www.mwra.state.ma.us/03sewer/html/sewhow.htm>.
- Huler, S. (2010). "How Does Sewage Treatment Work?" *Scientific American*. Retrieved from <https://www.scientificamerican.com/article/treating-sewage/>.
- Kahlong, A and Tang, T. (2014). "Catalytic Converters." *LibreTexts*. Retrieved August 16th, 2016 from http://chem.libretexts.org/Core/Physical_Chemistry/Kinetics/Case_Studies%3A_Kinetics/Catalytic_Converters.
- "Oxidize." (n.d.) *Dictionary.com*. Retrieved August 16th, 2016 from <http://www.dictionary.com/browse/oxidize>.
- "Redox Chemistry." (2016). *LibreTexts*. Retrieved August 16th, 2016 from http://chem.libretexts.org/Core/Analytical_Chemistry/Electrochemistry/Redox_Chemistry.
- "What are thermal oxidizers?" (2017). *Process Combustion Corporation*. Retrieved August 16, 2016 from <http://www.pcc-sterling.com/products/thermal-oxidizers/>.
- Nice, K. and Bryant, C.W. (2000). "How Catalytic Converters Work." *HowStuffWorks*. Retrieved August 16th, 2016 from <http://auto.howstuffworks.com/catalytic-converter.htm>.
- "Pollution Control." (n.d.) *Science Clarified*. Retrieved May 15th, 2017 from <http://www.scienceclarified.com/Ph-Py/Pollution-Control.html>.
- "Water Pollution." (n.d.) *National Geographic*. Retrieved May 15th, 2017 from <http://www.nationalgeographic.com/environment/freshwater/pollution/>.
- "Water-related Diseases and Contaminants in Public Water Systems." (2014). *Centers for Disease Control and Prevention*. Retrieved May 15th, 2017 from https://www.cdc.gov/healthywater/drinking/public/water_diseases.html.