

Cause and effects of dealing with widespread pollution (air, land, and water)

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Completing B. Environmental Science & Management (Applied Earth Sciences) degree

Exploitation of the Earth's resources produces waste materials which are then dispersed into the environment creating pollution (Lanteri, 1971, p. 254). Pollution creates fundamental changes in the lives of humans, animals, plants, soil, and the environment (Al-Taai & Hadi, 2021, p. 1).



<https://www.unabrevehistoria.com/2008/07/el-gran-smog-de-londres-de-1952.html>

The London smog of 1952 was one of the earliest documented episodes of air pollution which led to the premature deaths of thousands of people. This event prompted governments around the world to create and enforce environmental policies to reduce urban levels of air pollution (Gouveia & Fletcher, 2000, p.750). The passageway of the United Kingdom Clean Air Act was swiftly followed by the Clean Air Act of Victoria in 1957, which was the First State in Australia to pass such legislation (Lanteri, 1971, p. 259).

Sources of air pollution

Air pollution comprises of any airborne material that causes harm to living things and the environment. Even "harmless" materials, when present in abundant concentrations in a specified space, can be considered air pollutants (Greencoast.org, 2021).



www.greencoast.org 1

Burning fossil fuels –The biggest contributor of air pollution comes from industry sources and power plants generating power and fossil fuel motor vehicles. The constant burning of these fuels' releases air pollutants, emissions and chemicals into the air and the atmosphere. The World Health Organization (WHO) estimates that approximately 91% of the world's population live in areas where air quality levels exceed limits with developing and low-income countries (e.g., South East Asia) experiencing the greatest impacts from outdoor air pollution (Earth.org, 2021).

Ozone and smog - Ozone can be helpful or harmful. The ozone layer high up in the atmosphere protects us from the sun's dangerous ultraviolet radiation however when ozone is close to the ground, it is detrimental to human health. Ozone can cause itchy, burning eyes, damage lung tissue, and it is especially dangerous to people with asthma and other respiratory illnesses (National Geographic, 2021).



Weather conditions - Worsening air quality and extreme weather events, such as heatwaves, have increasing global effects. Heatwaves have long been known as an important driver of air pollutant levels, resulting in numerous impacts to health, the environment, and the economy (Kalisa et al., 2018, p.111). Bushfires quickly pollute the air that we breathe due to the smoke created which is filled with harmful gases such as carbon monoxide, carbon dioxide, nitrogen oxides, and volatile organic compounds (Lotts, 2019).

[Bushfires 1](#)

Effects of air pollution

The environmental effects of air pollution are also vast, ranging from acid rain to contributing to birth defects, reproductive failure, diseases in wildlife and affects to agriculture (Earth.org, 2021). Studies show that even at concentration ranges well below the present European annual mean limit value, long-term exposure to fine particulate air pollution is connected with natural-cause death (Beelen et al., 2014, p.793). Results of a study of young, healthy people exposed to coarse air pollution experienced mild to acute cardiopulmonary changes (Graff et al., 2009, p.1093).

What you can do

- Drive less. Walk, bike, carpool, and use public transport where possible.
- Switch to Electric Vehicles
- Maintain your petrol cars by regular servicing, changing oil on schedule, and inflating tires to the proper level which can improve fuel mileage and reduce emissions.
- Fuel up during the cooler hours of the day—night or early morning. This prevents gas fumes from heating up and producing ozone.
- Choose Green and Ethical products at home e.g., cleaning products, laundry detergents, air fresheners, hairspray.
- Avoid gas-powered garden equipment, like lawn mowers. Use electric appliances instead (National Geographic, 2021).

Land pollution



Landfill - The pollution of land has disastrous consequences for all living things and can impact the air, soils, and water. If landfill wastes are not separated into reusable, recyclable, or organic waste, these negative impacts can be even greater. Improper management of incineration plants can cause air pollution and attract insects that spread disease. Water moving through landfill waste can cause water contamination and direct handling of waste by workers can create chronic disease (ABS.gov.au).

[Landfill Australia 1](#)

What you can do to reduce, re-use and recycle

- Choose reusable bags or bring your own
- Collect your soft plastics and plastic bags including shopping bags, pasta, biscuit, snacks, rice bags, cling, and bubble wrap for deposit at most major supermarkets (e.g., Coles, Woolworths) for RED Recycling <https://redcycle.net.au/>
- Purchase coffee capsules/pods Zero Waste recycling box from [TerraCycle](#)
- Purchase cigarette Zero Waste recycling box from [TerraCycle](#)
- Put a sign on your letterbox if you don't read advertising mail
- Give unwanted clothes, household items, furniture or appliances to family or friends, or donate them to charities. [Freecycle.org](#) and other online groups help communities give away unwanted items.
- Buy second hand
- Use washed takeaway containers as stackable containers for frozen food.
- Use glass jars to store food or other items, or pass them on to friends or groups who make jams and candles
- Buy recycled rubbish bags such as Glad to Be Green <https://glad.com.au/glad-to-be-green/>
- Recycle properly – only put recyclable products in the recycle bin, and monitor dates for local community E-waste and chemical (e.g., paints) recycle events
- Recycle batteries, pens, printer cartridges and old mobile phones at Office Works [Sustainability Hub \(officeworks.com.au\)](#)
- Roll aluminium foil into a ball and place it in a recycling bin, even if it has food stuck to it.
- Compost your organic waste

Read more here - [Reducing waste | energy.gov.au](#)

Water pollution



Water pollution filter

Water pollution results from the dumping of solids and oxygen-consuming organic materials that predominantly come from untreated urban sewers and industrial drains, where the spread of trace pollutants (toxic chemicals and metals such as mercury, zinc, lead, and cadmium) is exposed (Al-Taai & Hadi, 2021, p. 2). Another cause of water pollution is thermal pollution resulting from water entering water streams from power stations and factories which increases water temperatures and thus causes water imbalances (Badran, 1988, p.7).

What you can do

- Avoid littering
- Only use the dishwasher and washing machine when there is a full load
- Do not flush sanitary items/cigarettes down the toilet
- Do not dispose of any solid or liquid waste down the sink (this includes cooking oil, pesticides, paint etc.)
- Compost properly using appropriate bins
- Choose green products in the garden
- Replant areas of disturbed soil
- Install rainwater tanks (if permitted by Council) to water the garden
- Take your car to a car wash as water is treated and recycled

Read more here - [What can you do to stop water pollution? | NSW Environment, Energy and Science](#)

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