

WHAT YOU CAN DO TO HELP REDUCE POLLUTION:

**10 Quick and Easy Changes
You Can Apply Almost
Instantly to Prevent
Pollution**

INTRODUCTION

People have been polluting the Earth for a very long time – pretty much as long as there have been people. Even in Roman times there were pollution problems that threatened the empire. Whether it's the unbridled use of lead by Roman copper smelters (still apparent in Ice samples taken from Greenland) or greenhouse gas emissions changing the climate, the waste products of human habitation have a nasty habit of getting just about everywhere and causing problems.

However, it is possible to do something about it in your own life. While it may not be possible to live a zero-pollutant lifestyle, it is possible for everyone to make changes that lessen their impact. And, when several billion people make collective changes like that, it's more than possible to reverse the kind of environmental damage that threatens wildlife and our own lives.

ANALYZING YOUR CONSUMPTION AND POLLUTION PATTERNS

The first step in making any significant change is to analyze the problem at hand. In the case of pollution, just about every facet of our lives involves direct and indirect types of pollution. For instance, even if you do manage to throw your litter into a trash can, that litter has to go somewhere and have an effect on something. Moreover, the extraction, manufacture and shipment of consumer items (and their packages) emits all manner of pollutants that can have worldwide impact.

Your own trash is a very good indicator of the pollution that your household generates. Even your recycling is a good representation of your consumption patterns. Every time you purchase something that has been transported to you over a great distance is a powerful source of carbon dioxide emissions – one of the most profound pollutants of the 20th century.

Just about everything you purchase has a “pollution budget.” It can be very difficult to weigh all the variables and make a good decision. Buying a used item from an online auction, for instance, prevents the pollution caused by manufacture, but causes carbon emissions in the form of shipping. Again, it's hard, if not impossible, to eliminate all the pollution you generate. But, even making small changes can have a large impact over a lifetime.

Things to investigate include what sort of vehicle you drive and how much you drive. The type of foods you purchase also has a large impact on the amount of pollution your household is responsible for. After spending some time determining where waste is in your life, you can begin the process of reducing your impact.

TAKING RECYCLING TO THE NEXT LEVEL

Most everyone is now in the habit of putting their pop cans in the recycling bin instead of the trash. Newspapers, some plastics, office paper, cardboard, steel, aluminum, glass and other packages can all be recycled by most municipalities into new items. This process, even including the sorting, transport and re-manufacture of new items, results in tremendous energy and air pollution savings.

In one study, over 85% of the pollution associated with household waste could be most effectively mismanaged through recycling. The recycling of aluminum cans, for instance, can save as much as 95% of the energy and emissions associated with the manufacture of new ones. Before the advent of recycling programs in the 1970s, most of these cans ended up in a landfill, only to be replaced by new ones. Today, very few of these cans makes it into the “waste stream.”

But, there are plenty of other items that can be reduced, reused and recycled in your life. Concrete from the demolition of homes and sidewalks can be crushed and turned into useful aggregate materials. Batteries, though problematic to recycle, can be highly recyclable, as in the case of lead-acid car batteries that are required by law to be recycled in many areas.

Clothing can be recycled through consignment, donation and swapping, as has become very fashionable in many areas. Computers and other types of electronic materials represent a large volume of recycling that not only

contains precious metals but also, dangerous materials that must be handled responsibly to keep from polluting rivers and groundwater.

Aluminum is one of the biggest success stories of recycling in the more developed world. This metal can be recycled indefinitely into a material that is indistinguishable from new ore with far less energy. Steel and iron are also highly recyclable. It is thought over 40% of the steel used in the mid-'aughts is made from recycled materials.

One criticism about recycling is that it doesn't always make it into the "recycling stream." This can happen for many reasons. Sometimes, companies that collect recyclables do so to improve their public image, while they just toss it into the rubbish. Other times, municipal recycling programs simply can't find anyone to recycle the items for a reasonable price, chucking them into the trash instead, even though they've already been sorted out. The efficient sorting and purity of some items makes them difficult to recycle, as is often the case with plastics.

The best way to eliminate pollution from waste is to not buy the items in the first place, but getting very familiar with your local recycling program is the next best thing. As is often the case, plenty of recyclable items that your local hauler won't take that can be recycled at other local recyclers, but you may have to haul the items there yourself.

TRANSPORTATION AND YOUR POLLUTION FOOTPRINT

Physical waste isn't the only source of pollution you need to concern yourself with. Simply getting things and people from one place to another creates pollution in the form of carbon dioxide, hydrogen sulfide, heavy metals, particulate matter, unburned hydrocarbons, ozone, carbon monoxide, methane, sulfur dioxide, volatile organic chemicals¹, nitrogen oxide and cancer-inducing polycyclic aromatic hydrocarbons.

This toxic soup of chemicals fills the air and sticks to roadways that are themselves largely made of toxic chemicals, too. Ground and surface water are both contaminated by production, refinement and transport use. Some of these chemicals are not only known carcinogens, but are so very toxic that

¹Including the highly-toxic chemicals benzene, toluene, ethyl benzene, and xylene

even a small amount spilled on soil can render it incapable of supporting vegetation for decades or more.

While there are bio-fuels such as ethanol and bio-diesel that do not emit nearly as many toxic pollutants, these fuels only represent a very small percentage of fuel used for transport in North America. While the government subsidized program in the US relies almost entirely on maize (corn), US produced maize often emits more carbon dioxide than its petroleum counterpart. Regardless, about 4 billion gallons were produced in 2007, contributing to a spike in world food prices during 2008.

Other sources of bio-fuel, however, are far less polluting. Brazilian sugarcane, a major competitor (were it not for import tariffs), has a far lower "carbon budget" per unit of usable transport energy, than most other bio-fuels. Many of the cars in Brazil are "flex-fuel," meaning that they can run on any mixture of gasoline or ethanol, including the E85 mixture that is nearly all renewable resources. Most other blends contain about 10% ethanol, very often mandated by law.

Clearly, doing what you can to reduce the amount of petrochemicals used transport is a very important way to reduce pollution. This is done by reducing the amount of driving you do as well as the amount of travel done by the items you purchase.

STAYING LOCAL TO CUT DOWN ON POLLUTION

The amount of pollution that one contributes can be greatly influenced by the amount of travel that is used to get you closer to the things you purchase. This embedded energy and the associated pollution is embedded in products and services that you and your household use.

For many, a good way to combat pollution is to source their products and services nearer to home. This new localism is the practice of relying upon the goods and services of those in your local area. In terms of produce, many farmers' markets and groceries define local products as being found within 50 miles. This is far closer than the 1,700 miles that the typical item at a grocery store travels.

Non-food products often travel even further. Sometimes being dug up on one continent, assembled on another and sold on yet another. Taking care

to purchase goods made in your city or region wherever possible, much of the petrochemical air pollution can be avoided. Moreover, for products created entirely in North America, you can be reasonably sure that environmental protection laws prevent excessive pollution, as that seen in some less developed countries.

North American multi-national companies and chains are aware of the move toward local purchases, and consumers need to be careful that they're not tricked by labels that claim the products are "manufactured" or "assembled" in North America. The best way to make sure the products you purchase are made in your area is to purchase directly from the manufacturers themselves and ask them. Many cities have local markets that allow local artisans and craftspeople to sell their wares at a collective location. By the same token, collective purchasing cooperatives with strict local guidelines can do the research for you.

REPLACING CHEMICAL POLLUTANTS IN YOUR HOUSEHOLD AND SAVING MONEY

For many, their greatest exposure to toxic chemicals occurs at home. It is said that most people in North America encounter over 350 man-made and potentially toxic chemicals before they even make it to breakfast. While it is all but impossible to eliminate these chemicals from your lifestyle, you can make significant changes that allow you to minimize their use and spend far less money on cleaning supplies and beauty products.

Household cleaning supplies are a very good place to begin making changes. The constituent components of these chemicals, while relatively benign on their own, have been shown to interact to form much more powerful pollutants. Eliminate the possibility of contaminating your own environment as well as the larger natural environment by replacing these with natural alternatives.

Baking soda, lemon juice and distilled vinegar are three household ingredients that can be used to clean just about anything in your home. Even plain, old, stinky ammonia (without chemical additives to tame the

aroma) is a better choice to clean your windows than the brightly colored chemicals that line the shelves of most supermarkets.

All these items are natural, non-polluting and quite inexpensive compared with their factory-produced counterparts. Even better, these are options that can be produced locally or refilled in bulk, cutting down on container waste.

The same can be said of personal hygiene products. It may be impossible to cut out all the chemicals you use in the shower and bath, but you can certainly cut out the use of synthetic fragrances and other chemicals that escape into the natural environment after being absorbed into your body. Moisturizing creams that contain dangerous chemicals can be replaced with naturally produced oils and butters, many of which can also be purchased in bulk.

Just about everything synthetically produced in the bathroom and kitchen has a non-polluting replacement – often times very similar to what might have been used a century or more beforehand. Making the choice to use such products can save transport emissions waste, chemical pollution at the point of manufacture and your own health risk. You'll also keep these chemicals from contributing to the water pollution that is caused when such products are washed down the drain.

EFFICIENT HOME HEATING AND COOLING OPTIONS

A very large amount of the air pollution that threatens life on Earth with the consequences of climate change is a result of residential or business heating and cooling. Air conditioners and refrigerators, in particular, often use highly toxic chemicals (such as freon) in conjunction with energy hungry cooling elements.

Freon, in particular, is especially notable as a very powerful chloro-floro-carbon (CFC) that has caused a great deal of atmospheric ozone destruction, though relatively non-toxic compared to the chemicals it replaced as refrigerants in the early 20th century. For the better part of a century this substance was used for all types of cooling, including that in automobiles.

Though this powerful atmospheric pollutant has been banned in much of the most developed world since the 1990s, there are still plenty old cars, inefficient refrigerators and air conditioners that are still capable of leaking

freon and related CFCs into the environment. It is vitally important that if you have an old 'fridge or air conditioner to dispose of, you contact the proper agencies to have this "hazardous waste" properly disposed of and recycled.

No matter where you live, a great deal of both your heating and cooling can be offset by the use of renewable power, passive solar and passive geothermal power. The later is a highly efficient way to use little or no electricity to pass a fluid into contact with the foundation of your home or business. Since the earth remains at a constant 50F, this means that a far smaller amount of carbon polluting energy is required to bring a home to a comfortable temperature. In fact, it's small enough that a very small micro-turbine can bring that figure down to nearly zero.

ORGANIC LANDSCAPES TO KEEP RIVERS CLEAN

Organic production is not just suitable for large farms in the country. No matter where you live, you can reduce the pollutants that percolate into the soil and are run-off into nearby rivers and streams by changing your landscaping practices.

For starters, a landscape that takes advantage of native plants uses less water and nutrients than most horticulturally-improved crops and ornamentals. Such plants are adapted to the soils and weather conditions in your environment, as well as the predatory insects. These plants can be used in very pleasing ways and are virtually trouble-free after a few years of establishment.

Even if you are planting a garden in your yard, which does cut down on the embedded pollution used when you buy those vegetables, using organic fertilizers and pesticides is very important. That's true, not only to safeguard your own health, but also in terms of protecting beneficial insects and establishing a sustainable ecosystem.

CHOOSING PRODUCTS WITH A LOW CARBON FOOTPRINT

Sometimes it's hard to know just how much fuel has gone into the production and transport of an item. For instance, you may be purchasing soap made by someone down the street, but where did they purchase the constituent supplies from? Even if you ask, the answer can be dubious, but most local producers will be happy to tell you.

Generally speaking, the fewer ingredients that go into the construction of an item, the closer to home they are all likely to be produced. When you have the ability to purchase organic alternatives to items, you're not only saving pollution but also, supporting a fledgling industry that can use all the support it can get.

The same is true of purchasing items that are made of recycled or sustainably derived materials

This is even further complicated in the case of services, where you can only guess at the products that will be used.

INVESTING IN ALTERNATIVE POWER

Installing renewable power to work with your own home becomes easier and more lucrative each year. However, you don't even have to go that far to start using alternative power in a matter of days or even hours. Many municipalities offer a renewable option. This means that you can choose to have your power that comes from the power company come exclusively from renewable options such as wind, solar and hydro-electric. Of course, your geographic location will determine what mixture and types of renewable are used.

EATING MORE FRUITS AND VEGETABLES FOR THE ENVIRONMENT

It has been shown that far less land and resources are used to cultivate the same caloric equivalent in fruits and vegetables as any kind of meat. In fact, much of the concern over the food supply of the 21st century is based upon the increased consumption of meat in very populous countries that are mostly vegetarian, such as India and China. Even when compared with other protein sources, such as legumes, meat production can use over 10 times as much food, energy and pollution.

While this is considered a radical option in many parts of North America, the environmental cost of the daily consumption of meat is a heavy pollution cost, where the "conventional" model of production is employed. In this system, animals are fed grains throughout their lives and transported to special feed lots. In the case of beef cattle, they are very often allowed to run on public lands without supervision for several months before transport to far-flung feed lots. These manure ponds of these feed lots are some of the most polluted places on Earth.

As has happened with increasing frequency in the early 21st century, the more frequent and powerful storms that have arisen as a consequence of climate change pose a serious pollution threat in the form of overflowed manure ponds. As has already been seen in the pork producing regions of the South-eastern US, entire river systems can be destroyed with the release of this concentrated nutrient.

Fruits and vegetables can be grown much closer to urban areas than meat, also requiring less carbon-emitting travel. Even just switching to smaller portions of meat or one fewer meat-containing meals per day can make a very large difference.

Another good option is to choose meats that have been produced on pasture within your region. Not only do many people find they actually taste better, but pasture reared animals are less likely to harbor harmful organisms such as *e. coli*, are less likely to compact soils and more likely to be kept away from stream banks where sediment and fecal matter can contaminate streams and kill fish. Buying sustainable or "organic" certified meats ensures that the animals were given access to proper pasture and fattened up on organic grains before being taken to slaughter. Both are very important when the impact is magnified through another organism.

WINTERIZING AND WEARING SWEATERS

When the weather turns cold, as it does in most of North America, much of the energy used in most households goes towards home heating. This can not only be a massive burden to budgets, but the amount of pollution released is staggering. This is especially true in the North-east and Midwest of the US and Canada, where coal is used for much of the winter heating. Other parts of the country that don't get as cold often rely upon heating oil or even electricity for heating, most of which also emits plenty of polluting carbon and other air pollution.

It may seem rather trite, but no matter what the type of fuel is used, using less of it goes a long way towards reducing the amount of pollution your comfort requires. This means keeping the heat you do use in as well as bundling up to use less of it.

Most in extreme northern climates are likely to have already made changes such as installing double- (or even triple-) paned windows, insulation in the walls and attic, sealing air leaks and checking the furnace for cleanliness and efficiency.

GROWING YOUR OWN ORGANIC PRODUCE

As mentioned above, the production and transport of food is a major contributor to air and water pollution. While the purchase of local and organic produce can be too much for many households, you can actually save a great deal of money by growing organic produce yourself. Consider how much a single broccoli costs in the grocery store – you can buy a whole packet of seeds for the same amount.

Moreover, when you're growing produce yourself, you'll be able to grow very intensively. It is thought that North America could meet much of its own

produce needs by employing a distributed network or intensive and organic urban gardens.

These intensive gardens can save the energy and expense of pumping and transporting water by using collected rainwater from rooftop collection barrels. You can dole out the water to the soil instead of the leaves, using fewer pesticides and reducing disease pressure in the meanwhile.

You'll need to travel no further than the yard to get your produce, and there'll be no wrappers or packages other than what the fruits and vegetables themselves come wrapped in. Moreover, since you'll have plenty of vegetables to eat, it is likely that your diet will change to include more seasonal vegetables. Even the scraps will be put back on your compost pile and become fertilizer for the next crop, since you'll not be using chemical fertilizers that can run off into the water supply.

BARTER AND SHARING

One doesn't always have to purchase goods new. Sometimes, used is plenty good or even better. Though you may have the item(s) in question shipped from some distance, there will be no pollution created from the procurement of raw materials or manufacturing process.

The rise of [eBay](#) as a worldwide resource for connecting people together has revolutionized many people's attitudes towards buying used. Other online resources such as [Craigslist](#) and others allow people to find others to barter with. Barter is especially useful for freelance professional with something widely useful to offer, but just about anyone may have some valuable item or service that can be even more useful to someone else.

You can also share or rent items that you'll only use once or twice. Having good neighbors is very valuable in this regard. Not only is it simply friendly, but the cooperation of people who live right next to each other can save quite a bit of material and transport pollution.

CONCLUSION

There are an infinite number of things you can do to reduce pollution in your own life. Even young children know that rubbish needs to go in to the trash can, but reducing our contribution to the dangerous chemicals and gases that pollute the soil, water and atmosphere, is more difficult. You'll never be able to eliminate all the pollution you generate, but you can bring that level down considerably with just a little bit of effort and some thoughtful purchase decisions.

It may take some time to get used to the idea of using less in an effort to reduce, reuse and recycle wherever you can, but once you get in the habit, it becomes second nature. Even better, it becomes an inspiration to others, especially when you do it in style.