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# ENVIRONMENTAL Fact Sheet

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29 Hazen Drive, Concord, New Hampshire 03301 • (603) 271-3503 • [www.des.nh.gov](http://www.des.nh.gov)

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## ***Preventing Pollution in Your Own Backyard***

### **Pollution from Lawn and Garden Equipment**



Few people associate air pollution with mowing the lawn. Yet many small individual sources of air pollution like lawn mowers can add up to one of the largest categories of air emissions. Emissions from lawn mowers, snow blowers, chain saws, leaf vacuums, and other outdoor power equipment are a significant source of pollution. Today's small engines emit high levels of carbon monoxide, a colorless, odorless, poisonous gas. They also emit hydrocarbons, or volatile organic compounds (VOCs), and nitrogen oxides; pollutants that contribute to the formation of ozone. While ozone occurs naturally in the upper atmosphere and shields the earth from harmful radiation, ozone at ground level is a harmful pollutant. Ground-level ozone impairs lung function, inhibits plant growth, and is the key ingredient of smog.

Until recently, emission controls for small gasoline engines were not a crucial design consideration for manufacturers. Consequently, small engines contribute more emissions per hour of use than most cars, because cars have complex emission control technologies installed. Power equipment users may also inadvertently contribute to pollution through careless fuel handling and improper maintenance.

In 2009, EPA adopted new regulations for small gasoline engines known as "Phase 3 standards," which established more stringent exhaust and emissions standards. They became effective for larger engines in 2010 and for all engines in 2012 and they required manufacturers to provide a permanent, legible emission label on each gasoline engine. When buying a new piece of equipment with a gas engine, consumers should ask if the engine has EPA Phase 3 certification and they should check the engine to ensure the proper emissions label is in place.

### **Tips for Reducing Emissions from Lawn and Garden Equipment**

- ***Maintain your equipment.***

Like cars, properly maintained lawn and garden equipment are less likely to pollute, and will perform better and last longer. Proper maintenance becomes even more important in the future as cleaner engines are developed for power equipment.

- Change oil as indicated in the owner's manual.
- Regularly clean or replace air filters and get periodic tune ups.
- Keep mower blades sharp and the underside of the deck clean.
- Winter-proof equipment each fall. This includes emptying all fuel, draining and replacing oil (if used), checking the air cleaner, cleaning the engine, and other routine maintenance.

- ***Avoid spilling gasoline or allowing it to evaporate.***  
Because even small gasoline spills evaporate and pollute the air, preventing spills and overfills is an easy and effective way for power equipment owners to prevent pollution. Take precautions against spillage when fueling power equipment and when filling gasoline containers at the service station pump:
  - Use a spill-proof gasoline container of a size you can handle easily and hold securely. Pour slowly and smoothly while filling the equipment gasoline tank. The cap or spout on a new spill-proof gasoline container will automatically close tightly after filling the gasoline tank. However, if using an older type portable fuel container, be sure to tightly seal the container and the vent after filling it at the gas pump. Also, remember to tightly recap the gasoline tank on the equipment.
  - If necessary, use a spout or funnel when pouring gasoline into the equipment to avoid overfilling or having fuel run over.
  
- ***Kick the fossil fuel habit entirely***
  - Look into manual tools to replace power tools; they don't pollute at all. Mechanical "reel mowers" are still in production and still popular. They often do a better job than power mowers and actually help save your lawn in a drought because they cut the grass blade with a clean edge that loses less water. A hand rake and hand shears are quieter than a leaf blower or weed whacker, keeping you on good terms with your neighbors and giving you some good exercise.
  - Consider electric options. Electric lawn and garden tools that produce no emissions through exhaust or fuel evaporation are excellent for small jobs. Electric equipment is easier to use and maintain than gasoline tools, they use less energy and they are quiet. Generating electricity for electric tools can result in power plant emissions, but power plants usually trap and retain emissions before they leave the smoke stack. In addition, today's electricity is often generated by a combination of fossil fuel and non-polluting sources like hydroelectric and wind.
  
- ***Plant low-maintenance ground cover and shrubs to reduce mowing time.***
  - Plant trees and shrubs that need minimal pruning. Additional trees and shrubs can also reduce the energy costs of heating and cooling your house, while providing landscaping for wildlife.
  - Choose low maintenance turf grasses or grass/flower seed combinations which grow slowly so you need to mow less often.
  - Landscape with native varieties of wildflowers and plants. Native plants require less water, fertilizer, and pesticides, as well as less trimming.
  - Your local cooperative extension service or lawn and garden center may have suggestions for what varieties of native and/or low maintenance plants will grow best your area.
  
- ***Recycle old equipment.***  
Older equipment powered by gasoline engines can be up to twice as polluting as new equipment. Instead of selling or giving away your old lawn and garden power tools, take them to a recycling center where they can be converted into raw material for use in cleaner equipment and other products.



### **For More Information**

To find out more about how you can reduce emissions of carbon monoxide and smog-producing chemicals, contact the DES Air Resources Division at (603) 271-1370.