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Your Yard Is a Stealthy Fossil Fuel Guzzler—Give It a Climate Makeover

Lose the fertilizers, power tools, and water-hogging plants, and you'll have a much greener garden. Here's how.

[Protect Birds from Climate Change](#)

Two-thirds of North American bird species are at risk of extinction from climate change.



Editor's note: Want a climate-friendly home? Your yard is a good place to start. This is the first in a five-part series of guides on how to manage your outdoor turf to reduce your carbon footprint, all while creating bird-friendly habitat. Read parts [two](#), [three](#), [four](#), and [five](#).

Picture this familiar scene in cities and suburbs across America: Landscape crews jump out of giant eight-cylinder trucks and rev up a variety of mowers, leaf blowers, and other gas-guzzling engines—all in the name of maintaining our green yards. From a carbon footprint perspective, “it would be better to just pave over the landscape,” says gardening expert Doug Kent, only half-jokingly, as we walk through one of his low-carbon gardens in Manhattan Beach, California.

Many gardeners assume their activities are good for the climate because yards are full of plants that soak up carbon dioxide, the leading greenhouse gas. But maintaining the typical garden “is incredibly fossil-fuel dependent,” says Kent, the author of [A New Era of Gardening](#) (2001), the first book on low-carbon gardening published in the United States. In reality, he points out, many gardens create more CO₂ than they take up—often a lot more.

The good news is that if you take your yard's care into your own hands, you can lessen its climate impact while conserving water and resources and creating habitat. The following are the most important steps you can take to slash your landscape's greenhouse gas emissions.

Opt for People Power

A mind-boggling assortment of power tools is used in landscapes—not only mowers and blowers, but also lawn edgers, hedge trimmers, weed whackers, chippers, shredders, rototillers, and more. According to the [California Air Resources Board](#), these “small, off-road engines,” or SORES, significantly outnumber passenger cars in the vehicle-happy Golden State. An [Environmental Protection Agency study](#) calculates that SORES account for 4 percent of CO₂ emissions nationwide. They're also major components of smog, and belch out a number of cancer-causing pollutants.

If you can't rely on your weed whacker to keep your landscape under control, what are you supposed to do? Kent, who teaches ecological landscape design and management at California State Polytechnic University, Pomona, sings the praises of people power. To decrease your landscape's contribution to climate change, he says, “the best thing you can do is reduce the amount of machinery you use.” And using hand tools like reel mowers and rakes is great exercise, he adds. This people-powered approach to landscaping is quite doable if you reduce the size of your lawn and avoid high-maintenance features like manicured hedges.

Some people have swapped their gas-powered garden tools for more energy-efficient—and quiet—electric ones. But unless your electricity comes from solar, wind, or other renewable sources, they still contribute to overall carbon emissions. The EPA's [Power Profiler](#) gives you a breakdown of where your electricity comes from to help you assess your SORES' carbon footprint.

Kick the Fertilizer Habit

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“Most gardeners are surprised to learn that one of the biggest contributors to greenhouse emissions from home gardening and lawn care is the use of nitrogen fertilizers,” says David Wolfe, professor of plant and soil ecology at Cornell University. Synthetic fertilizers are extremely energy-intensive to manufacture—for every ton of nitrogen made, four to six tons of carbon typically end up in the atmosphere, according to Wolfe. What’s more, most fertilizers provide more nitrogen than plants can take up, and soil microbes convert excess nitrogen to nitrous oxide gas, which has 300 times more heat-trapping ability than CO₂.

Using either synthetic or organic fertilizers releases nitrous oxide. But organic fertilizers are better than synthetic ones because the enormous CO₂ emissions associated with manufacture are mostly eliminated. And if you use yard trimmings composted in your own backyard as your plants’ primary source of nutrition, you’ll also eliminate the greenhouse gas emissions associated with packaging and transporting store-bought products. As a bonus, this keeps garden refuse out of landfills, where it breaks down and releases methane, another powerful greenhouse gas.

Stop Wasting Water

According to the [EPA](#), gardening gobbles up more than 30 percent of household water usage on average, and up to 60 percent in arid regions. As much as half is lost due to wind, evaporation, and runoff caused by inefficient irrigation systems. If that weren’t bad enough, pumping, treating, and distributing water accounts for an estimated [3 to 4 percent of national electricity consumption](#), which means that irrigation is responsible for a significant amount of CO₂ emissions.

The most effective way to stop wasting water is to grow plants suited to the conditions on your property and the amount of precipitation in your region. Hand watering is the most climate-friendly way to hydrate them when necessary. If you must irrigate, make sure the professional you hire to install and maintain your system is certified by EPA’s [WaterSense program](#), which helps consumers identify water-conserving products and services.

Lose the Lawn

Not surprisingly, the endless mowing, blowing, fertilizing, and irrigation involved in turf maintenance results in a [hefty climate footprint](#). To make matters worse, the country's [40 million acres of lawn](#), our largest irrigated crop, offer little to birds and other wildlife. Replacing your lawn with [native trees, shrubs, and ground covers](#) not only can slash your landscape's greenhouse gas emissions but also coax birds back to your garden and look great, too.

A good way to begin chipping away at your lawn is to enlarge existing planting beds, replacing another patch of turf each year. One climate-friendly way to smother the lawn or other unwanted vegetation is described [here](#). In its place, add a much more interesting mix of woody plants, ferns and forest wildflowers or native grasses and perennials, depending on what is most appropriate for your region. Birds and other wildlife will welcome the enhanced habitat. Consult your state native plant society and Audubon's [native plant database](#) for planting recommendations.

The Manhattan Beach garden is a good example. "No power tools are used here," Kent says. "The garden is entirely hand watered." An impressive California sycamore casts cooling shade over much of the backyard. In the front, low-growing flowers provide more color and seasonal interest than the typical lawn. Best of all, fuchsia-flowering gooseberry, golden monkey flower, California flannelbush, and other native wildflowers attract a fascinating array of birds, bees, and butterflies.