



## 5 Green Reasons to Choose Battery-Powered Lawn Tools

By Paul Hope  
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Cordless electric mowers, string trimmers, and leaf blowers now perform better than ever. And compared with gas-powered options, they're kinder to the environment, too.

The irony of lawn tools is that they're often destroying the same outdoor spaces we are hoping to maintain and manicure. That's because some of them are causing more harm to the environment than many people realize.

Gas-powered outdoor equipment, including leaf blowers and lawn mowers, emit an outsized share of carbon dioxide, nitrogen oxides, and volatile organic compounds (VOCs).

There are 650 million gas-powered outdoor tools currently in use in the U.S., according to a 2021 study from The Freedonia Group, a division of marketresearch.com. And each one contributes to climate change.

"When you look nationally at the pollution from gas-powered yard tools, the numbers are pretty staggering," says Simon Mui, deputy director for the clean vehicles and fuels group, part of the climate and clean energy program at the Natural Resources Defense Council. "These little lawn tools with two-stroke engines are, in some cases, putting out 20 to nearly 300 times the emissions of a car every hour they're running."



Two-stroke engines are commonly used in handheld lawn tools like chainsaws and string trimmers, while more efficient four-stroke engines are used in tools with wheels, like lawn mowers and snow blowers.

But any gas lawn tool pollutes more than a battery-powered model, and switching to battery-powered lawn tools can help lessen that impact. They're far better for the planet, not to mention also simpler to use in your own yard.

"Every year we test more battery tools, and every year we find fewer reasons to recommend buying gas tools," says Misha Kollontai, the CR engineer who oversees the testing of all outdoor power equipment.

The battery revolution began with string trimmers and leaf blowers. These tools require less power than, say, a lawn mower or chainsaw, and so they're easier to power with batteries.

But breakthroughs in battery capacity, along with improved efficiencies in motors, have allowed even large, power-hungry tools to go electric.

“Since 2014 we’ve seen a big swing toward cordless tools, to the point where they are now a large majority of the models that Ryobi offers and the main focus of any future product development,” says Steve Holland, senior vice president of product management at TTI, the parent company of Ryobi, which makes gas and electric lawn tools.

“We’re at the point now where we feel that nearly every single consumer can be well served by battery-powered lawn tools in their own yard,” he adds.

In 2017 we reported on the first battery push mower in our tests that could truly compete with gas models. And last fall, we tested two compact two-stage battery snow blowers, one from Ego and one from Snow Joe. Both scored well enough for CR to recommend them, and both beat out a number of gas models in a head-to-head matchup.

These tools were also noteworthy for being the first of their kind. (Previously, CR had seen and tested only single-stage battery snow blowers, which are made for lighter snow, up to about 6 inches.)

But the improved performance of battery-powered lawn tools is just one selling point. Even more compelling is that they’re less harmful to the environment. Here are five eco-friendly reasons to choose cordless electric power tools over gas.

### 1. A Battery-Powered Motor Produces Zero Emissions

That stands in stark contrast to the two-stroke engines that power many gas tools. Not only do these gas tools pollute, but they’re also dirtier than car engines. That’s because they’re far less efficient and don’t have the emissions-capturing technology that regulations have made standard in the auto industry.

Consider this: Running a commercial gas-powered leaf blower for just an hour produces about as much pollution as driving a 2017 Toyota Camry 1,100 miles, according to the California Air Resources Board.



### 2. Battery-Powered Tools Are More Efficient

Because electric motors are typically more efficient than gas engines, they require less energy input to do the same amount of work.

“Gasoline engines generate a significant amount of heat during the combustion phase, which is just wasted energy,” says James Dickerson, CR’s chief scientific officer.

Electric motors don’t typically have the same waste-heat problem as gasoline engines, so more of the energy they generate goes directly toward powering the tool.

### 3. You Can Recharge Them

Any form of energy comes at some cost to the environment. The lithium-ion batteries that power these lawn tools need to be recharged with electricity, so they contribute to greenhouse gas emissions indirectly by taking energy generated by power plants.

“But it’s a fraction of the harmful emissions produced by running gas tools,” Mui says.

And if your utility company relies in part on renewable energy, such as wind and solar power, the carbon footprint of using your electric tool gets even smaller.

You can find out where your area stands by entering your ZIP code into the EPA's Power Profiler to see how much of the energy you use is generated by oil, natural gas, and renewable sources.

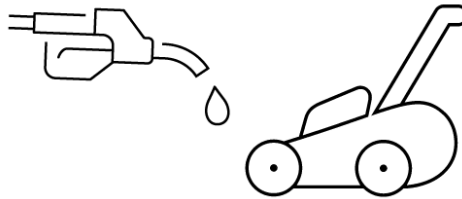
One side note: If you purchase multiple tools from the same manufacturer platform, you can use one battery interchangeably for all of them. And for each tool you purchase without a battery, you pay around 30 percent less.

#### 4. There's No Risk of Spilled Gasoline

It's almost inevitable that you'll spill a few drops of gas when refilling the tank of a lawn mower or string trimmer, or when filling up a container at a gas station.

That's because when you're filling a gas container, a gas pump's shutoff mechanism doesn't activate the way it does when you're filling your car's tank. So you're more likely to overfill your container. "That spilled gasoline can contaminate groundwater and aquatic systems, potentially exposing people to dangerous hydrocarbons like benzene and toluene," says Andrew Zimmerman, a professor of geological sciences at the University of Florida.

And while your small spill may seem like no big deal, consider that you're one of the millions of people making that mistake. "If you added up all the spilled fuel across the country each year," Mui says, "you'd probably end up with something that resembled a large-scale oil spill."



#### 5. Battery-Powered Tools Are More Reliable Than You Might Think

At CR we regularly conduct member surveys in which we ask our members to tell us about problems they experienced with their outdoor power equipment. We use that data to estimate how reliable newly purchased tools will be through the fourth or fifth year of ownership.

We've found that 5 percent of leaf blowers purchased new between 2012 and 2019 were ultimately discarded due to problems with the tools working properly, and 9 percent of all string trimmers purchased new between 2013 and 2019 were discarded for the same reason. That can translate into millions of tools of all types winding up in the garbage.

But battery-charged trimmers and blowers turn out to be more reliable than gas ones. For instance, all the battery string trimmer brands we rate earn a score of Very Good or Excellent for predicted reliability, while less than half of the gas brands we rate score as well. Five gas brands even earn a low rating of Fair. As for leaf blowers, most handheld battery-powered brands earn a favorable reliability rating. No handheld gas brand earns more than a middling Good reliability rating. In fact, a number of brands earn a Fair or Poor rating. (Of course, it's possible that with proper maintenance, a gas tool can last a long time, but our data shows that they're generally more problematic than their battery-powered counterparts.)

We see more variability with battery lawn mowers, but a majority of the cordless electric mower brands for which we have adequate data earn a rating of Good or better—and a handful of brands earn ratings of Very Good or Excellent. That's roughly what we see for gas mower brands, too.

Overall, as battery-powered lawn tools of all kinds have improved, so have their warranties. Many brands have started offering lengthier warranties of two or three years as opposed to one year, which was pretty standard when battery tools first came out.

One stellar battery brand, Ego, offers a 3-year warranty on its battery and a 5-year warranty on the tool itself, a fairly common practice among battery tool makers. So when a problem arises with a battery-powered lawn tool, it may be easier to have it fixed rather than throw it out. That's good for the Earth and for your wallet, too.

Reference:

Hope, P. (April 20, 2022). *5 Green Reasons to Choose Battery-Powered Lawn Tools*, Consumer Reports. Retrieved from <https://www.consumerreports.org/tools-power-equipment/reasons-to-choose-battery-powered-lawn-tools-a1182121491/> on December 13, 2022