Four Reasons to Switch to Battery-Powered Outdoor Equipment

1. Reduced noise and air pollution
2. Lightweight and easy to start
3. Low maintenance
4. Reduced cost to operate

Clean Energy Lives Here
MASSCEC.COM/GOCLEAN
Battery-powered lawn and outdoor equipment are cordless tools powered by rechargeable batteries. Battery-powered (or cordless electric) options are now offered for most popular outdoor equipment, such as mowers, leaf blowers, trimmers, chainsaws, snow blowers, and more. The power and runtime of cordless power tools are increasing rapidly and are now on par with gas-powered equipment. Landscaping professionals are transitioning some tools to battery-powered options and fully electric landscaping companies are becoming more common in some areas. Most batteries are lithium-ion, which are light, long-lasting, and don’t lose power as the charge decreases. It is important to note that battery-powered equipment comes with either ‘brushed’ or ‘brushless’ motors. Brushes are sliding devices within a motor that allows for the transfer of electricity. In brushless motors, magnets and electromagnets are used. Brushless motors last longer, are more efficient, reliable, quieter, and more powerful.
**Benefits of Battery-Powered Outdoor Equipment**

1. **REDUCED NOISE AND AIR POLLUTION**
   Battery-powered equipment is much quieter than gas-powered equipment as it runs on motors instead of engines. Gas-powered equipment is highly polluting and since operation requires close contact with combustion engines, they have negative effects on the operator’s health.

2. **LIGHTWEIGHT AND EASY TO START**
   Battery-powered equipment is lighter than its gas-powered counterparts and therefore easier to maneuver. Equipment starts easily with the push of a button.

3. **LOW MAINTENANCE**
   Outdoor battery-powered equipment requires less maintenance than gas-powered equipment. You will still need to sharpen blades and take care of batteries, but there is no oil to change tune-ups needed, or flammable fuel to store.

4. **REDUCED COST TO OPERATE**
   Battery-powered equipment is more efficient, and therefore costs less to operate. In addition, battery-powered equipment is more reliable and will likely last longer.
Gas-powered equipment emits hydrocarbons, oxides of nitrogen, particulate matter (damaging to the respiratory system), carbon monoxide (a poisonous gas), and carbon dioxide (contributing to global warming), causing negative health effects to the lungs, heart, immune system, and detoxification system with the potential to cause cancer. According to Cleantechnica¹ lawn care produces 13 billion pounds of toxic pollutants per year and over 17 million gallons of gas are spilled each year refueling lawn and garden equipment. To put this in perspective, the EPA estimates that hour-for-hour, gasoline-powered lawn mowers produce 11 times as much pollution as a new car.

¹ https://cleantechnica.com/2021/10/13/its-time-to-ban-gas-powered-landscaping-equipment/
WHAT BRAND SHOULD I BUY?

There are many brands to choose from including new brands specializing in just battery-powered equipment, and brands that have been around for a long time and have expanded into the battery-powered option. An important consideration when purchasing outdoor battery-powered equipment is that it’s important to commit to a single brand since the battery systems are not interchangeable between brands. Keeping to one brand will allow you to save money by operating equipment you purchase in the future with batteries from existing equipment.

IS A BRUSHLESS MOTOR BETTER THAN A BRUSHED MOTOR?

Brushless motors are usually more expensive than brushed motors but have a longer life and require less maintenance. Brushless motors produce less heat so are more efficient and better for the environment. In addition, they offer smart motor technology that automatically adjusts the power required to match the task at hand.

HOW LONG DOES ELECTRIC EQUIPMENT LAST?

Battery-powered equipment will last longer than its gas-powered counterparts. You will have to replace the battery before the rest of the equipment wears out, but proper care of batteries can also increase their life. Different brands offer different warranties, so it’s important to compare.
TECHNOLOGIES FOR YOUR CLEAN ENERGY HOME: BATTERY-POWERED OUTDOOR EQUIPMENT

Getting the Most from Your Outdoor Power Equipment

REPLACING THE BATTERY

The lifespan of a battery is measured in terms of charge cycles. This is the number of times that the battery is fully charged. Although it varies by manufacturer, a Lithium-ion battery should last on average for at least 400 charge cycles. A well-maintained battery should last 3 to 5 years before its' performance will start to be reduced and it starts holding less charge.

BATTERY MAINTENANCE

Recharge batteries after each use, versus waiting until it’s fully discharged, and then be sure to completely charge it. Store the battery out of direct sunlight and in a cool dry place, ideally below 68°F/20°C when it’s not being used. If you’re storing your battery for a lengthy period, it’s best to store it less than fully charged (40%-80% is ideal) so you don’t reduce the battery life. That also means it’s best not to leave the battery plugged in for long periods after it’s fully charged. If a battery gets hot, let it cool down before recharging it. For optimal performance and safety, batteries should be kept dry, so don’t use battery-powered outdoor equipment in the rain. If the battery gets wet, wipe away moisture before charging the battery.

2 https://bicyclevolt.com/electric-bike-maintenance-cost/

BACKUP POWER

It’s a good idea to have a second battery on hand and fully charged so you can switch mid-job. Most consumers buy more than one piece of outdoor power equipment and each one can typically be purchased with or without a battery. If your equipment has compatible batteries, once you buy 2 or 3 pieces of equipment with batteries that should provide plenty of backup power and allow you to do most yard work without the need to wait for a battery to charge. Any other equipment you buy from that point on can utilize the batteries you already have, which creates significant savings over buying gas alternatives.
OTHER RESOURCES

Best Battery Powered Lawn Tools (for 2022)
Best Home Gear, 2022

What Is A Brushless Lawn Mower? Is It Better Than Brushed Mowers?
Bird and Feather, 10/2/22

5 Green Reasons to Choose Battery-Powered Lawn Tools
Consumer Report

What Is the Lifespan of a Lithium Ion Battery?
Bi News, 12/13/21