



GAS LEAF BLOWERS: NOISE FACTS AND IMPACT

Greenwich Noise Ordinance - Leaf Blowers are Exempt

Greenwich's noise ordinance, Section 6B-5, sets noise limits in residential zones at 55 decibels during daytime hours in accordance with Connecticut state statute which is also the level set by major world health organizations. However gas blowers operate around 100 decibels at their source and 60-75 decibels at 50 feet away and are EXEMPT from the noise restriction. By setting allowable daytime noise levels at 55 decibels, our noise code implicitly recognizes that gas powered leaf blowers produce dangerous noise levels, and QYG believes it is time to end this omission. Also excessive gas blower noise cannot be confined to a single property.

- *Landscaper equipment choices must be balanced with those of property owners who want to enjoy their homes and yards.*

Health Organization Limits : 55 dB Safety Limit vs. 95-115 dB Gas Blowers

The World Health Organization advises general outdoor noise levels of 55 decibels or less. According to the CDC, any noise above ~70 decibels begins to cause hearing damage, while any noise above 120 dBs causes immediate hearing damage. The CDC website explicitly lists gas powered leaf blowers as a common cause of hearing damage. For context, the limit set for auditory torture in the CIA handbook is 79 decibels. Yet, most gas blowers operate at 95-115 decibels at the ear of the operator, and at 50 feet, between 65-75 decibels. A seminal acoustic study found that operating multiple two-stroke leaf blowers produces noise loud enough to damage hearing from 50 feet away, and creates an unhealthy environment from 800 feet away.

- *Residents believe it is unacceptable for companies to operate gas blowers if it impacts their clients and their client's neighbors this way.*

Electric Blowers are Quieter than Gas Blowers

The decibel scale is logarithmic, which means that a 10-decibel increase means a 10-fold difference in sound pressure and a 20-decibel increase is a 100-fold increase in sound pressure (10 x 10). Humans perceive the loudness of 80 decibel sound as twice as intense as 70 decibel sound, and 90 decibel sound as four times as intense as 70 decibel sound. Thus, a 100 decibel leaf blower at its source is 24 times as intense as the recommended safe maximum of 55 decibels.

- *And at 50 feet away, the noise from gas leaf blowers is four times the noise level that*

the Greenwich ordinance deems safe. Further, landscapers often deploy multiple leaf blowers on a property.

At the Same Decibel Level.....

Gas Blower Frequencies Penetrate/Travel Further Than Electric Waves

A 2017 Journal of Environmental Toxicology study found that the low-frequency sound waves from a two-stroke gas blower engine more readily transmit over longer distances and are able to penetrate walls and windows. The same study found that leaf blower manufacturers frequently underestimated and under-reported the noise levels of their tools. In comparison, sound waves emitted by electric blowers are a higher frequency and do not travel, or penetrate the way low-frequency gas motor sound waves do. Electric leaf blowers are generally quieter by decibel ranking, but even if equal - because they have higher frequency sound waves, their penetration and traveling long distances is reduced.

69% of Greenwich Residents are Highly Concerned About Gas Leaf Blower Noise

In early 2022, Quiet Yards Greenwich conducted a residential survey asking, "Do you feel that the noise from leaf blowers has impacted your ability to enjoy your home and yard?" Of the 660 responses, 69.2 % responded that they were extremely or very concerned.

- Close to 90% of people asked for relief from excessive gas blower use.

Excessive Noise Impacts our Children's Cognitive Performance

Among school children exposed to increased environmental noise, researchers found specific deficits in attention, concentration, memory, reading ability, and performance on standardized tests. Pediatricians have warned that the auditory systems of children are developing and are more vulnerable to high intensity noise.

The American Green Zone Alliance, which tests electric lawn equipment for commercial and municipal use, finds that the power of electric blowers is adequate for ten months of the year in the Northeast.¹ The landscapers familiar with electric equipment interviewed by Quiet Yards Greenwich reported that they only find gas blowers necessary in the fall when dealing with heavy wet leaves.²

¹ <https://agza.net/>

² See Appendix D

Landscapers and residents interviewed agreed that gas leaf blowers are overused. Some of the most common forms of overuse that were described in interviews included:

- using gas blowers in the summer and winter months when there is very little leaf litter
- walking around with the blower left on, even when it is not needed (because there are many steps to starting a gas leaf blower³, crews sometimes find it easier to leave it running)
- standing in one place, as if lost in thought, with blower running
- using the blowers to move leaves across large distances rather than moving leaves with a tarp;
- using gas leaf blowers for jobs that can just as easily be done with a broom or rake, such as blowing dust and debris off hard surfaces
- using leaf blowers on grass clippings
- blowing leaves into the street where they clog storm drains
- blowing leaves onto neighbors' properties, then requiring a different team to blow those same leaves off

Aside from the wet leaves of late fall, landscapers who use electric equipment find that they do not need the 200 mph wind speeds provided by gas leaf blowers for most of the year.⁴ Owner of Organic Ways and Means Landscaping reported, "I think it works as well as a gas blower. There are higher speeds in some of the gas ones, but once you move the leaf, do you need to push it 10 feet or 12? I'd say [the electric blower] is 95% or 99% as good. I don't see the gas helping. If you use one blower and a tarp and a rake, you can get it done, as opposed to blowing all the way across the property. It's not efficient."⁵

4A.3: Price Comparison:

There are two costs to consider when comparing the costs of gas and electric blowers: upfront costs and operating costs.

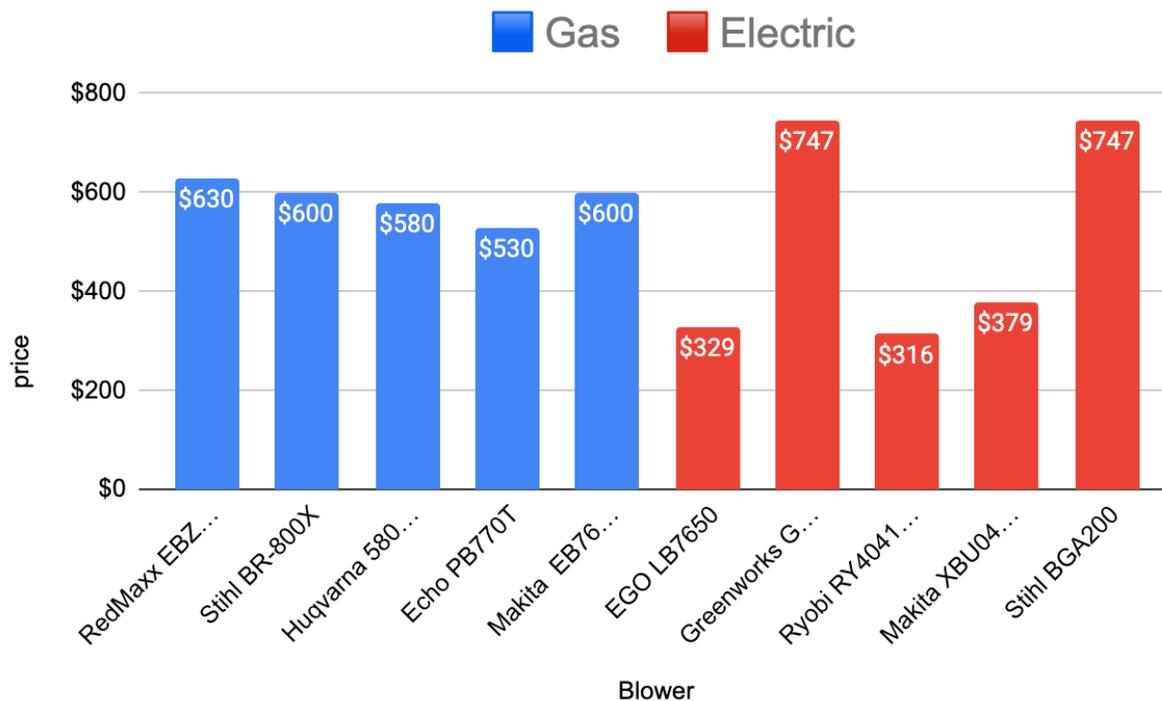
Upfront costs:

The chart below compares the upfront costs of our 10 models of blowers. Prices for electric blowers include the blower, one battery, and a charger. On average, the electric blowers in this comparison are \$85 more expensive than the gas blowers. To be able to use them throughout the day, an extra battery will be needed. Prices for batteries for these models range from \$145 for off label brands to \$299 for name brand batteries.

³ Steps may differ for different models. For Stihl blower starting involves turning switch on, pushing primer button 4-5 times, moving choke lever, squeezing throttle trigger and pushing throttle lock button, pushing down housing, pulling starter rope, returning choke to run position, cranking the engine, and squeezing the throttle engine to release the trigger lock

⁴ Interview with Jeff Cordulack, Organic Ways and Means, and Dan Delventhal, MowGreen.

⁵ Quiet Yards Greenwich interview with Jeff Cordulack.



There are many kinds of battery combinations available for electric leaf blowers. Generally speaking, the longer the battery lasts, the heavier it is, the more expensive, and the longer it takes to get a full charge. Landscapers we interviewed who use electric leaf blowers daily prefer smaller batteries ranging from 2.5 amps to 7.5 amps. The 5.0 amp, such as the one pictured below, lasts about 20 minutes, takes about 30 minutes to charge, costs \$100-\$150 and weighs just over a pound. Jeff Cordulack of Organic Ways and Means suggested having two such batteries per blower as a good rule of thumb. Cordulack charges one battery while working with the second one, and he keeps switching between the two. Cordulack charges at clients' outlets, and at current electricity prices the cost to the client is about \$0.20 per service visit.