OSE-003-A-001
Concerning Leaf Blowers
Supplemental Material

The scientific and anecdotal literature is clear: Gasoline powered leaf blowers should be banned. At the least, gasoline powered devices should be completely forbidden. Electric devices are somewhat less noisy but still produce particulate pollution by lifting detritus off the ground and putting it into the air for everyone to breath.

Some additional information is on following pages.

Here's one reference not printed out in full—the Oakland CA ordinance to show how it's done: https://library.municode.com/ca/oakland/ordinances/code_of_ordinances?nodeId=1048940

If Oakland, Washington D.C. and dozens of other cities and towns can do it, so can we.

Link to the SLI (Budget Committee Agenda, October 26, OSE pdf): http://seattle.legistar.com/View.ashx?M=F&ID=9912407&GUID=54273F40-563C-4559-9645-E66E08C2B5E7 — page 6.

California set to become first state to ban gas-powered lawn equipment

Oct. 13, 2021 at 5:00 am Updated Oct. 13, 2021 at 5:16 am

A landscaper uses a leaf blower in Irvine, California. (Don Bartletti/Los Angeles Times/TNS)

By
Tik Root
The Washington Post
[Reprinted in Seattle Times]

California is set to become the first state in the country to phase out gas-powered lawn equipment.

Gov. Gavin Newsom signed a bill Saturday that would require new small off-road engines (SOREs), used primarily for landscaping, to be zero-emission by 2024. The legislation comes with $30 million in funding to help aid the transition.

“Small gas engines are not only bad for our environment and contributing to our climate crisis, they can cause asthma and other health issues for workers who use them,” said California Assemblywoman Lorena Gonzalez, D, an author of the bill, in a statement. “It’s time we phased out these super polluters.”

According to the California Air Resources Board (CARB), operating a gas leaf blower for an hour can create as much smog-forming pollution as driving a Toyota Camry for 1,100 miles. The agency estimates that the state is home to some 14.4 million SOREs in the residential and commercial lawn equipment sector.

Nationally, the Department of Transportation data shows that in 2018, Americans used nearly 3 billion gallons of gasoline running lawn and garden equipment. That's equivalent to the annual energy use of more than 3 million homes.

"We feel it's going to be transformative," said Daniel Mabe, the founder of the American Green Zone Alliance, a company aimed at helping people transition to lower-impact landscaping. He sees the law as a way to help accelerate a movement that's already underway.

Manufacturer Stanley Black and Decker estimates that the volume of electric-powered lawn equipment that North American manufacturers shipped jumped from about 9 million units in 2015 to over 16 million in 2020 – a leap of more than 75% in only five years. And during that time electric equipment went from roughly 32% to 44% of the overall lawn equipment market. Makita, another manufacturer, has said that it "will cease production of all gas-powered equipment worldwide" by March.

Mabe is particularly glad to see the California legislature committing money to the initiative. "Traditionally the [electric vehicle] and solar industries have had the lion share of funding mechanisms," Mabe said. "It's a big win that they're going to fund this."

Not everyone, however, supports the new law.

"We are not trying to say we want gas powered equipment forever. We get it, [electric is] coming," said Andrew Bray, vice president of government relations for the National Association of Landscape Professionals. "All we're asking for is a little more time."

Bray said the hurdles involved with the transition are multifold. Aside from upfront costs – a commercial electric lawn mower can cost more than twice its gas equivalent – he says it often doesn't perform as well, with less power and shorter usage times. And, he added, the charging and repair infrastructure isn't nearly robust enough yet.

"We have a lot of trepidation and fear," said Bray, noting that the $30 million in funding that California enacted is far from sufficient. Ultimately, he said the law could lead to higher prices for landscaping customers.

The California ban may still hit snags. The new legislation, for instance, allows the California Air Resources Board to delay implementation depending on feasibility. Under the federal Clean Air Act, California must also apply to the Environmental Protection Agency for authorization to "enforce its own standards for new nonroad engines and vehicles." Only after that is granted can other states take similar steps.

“California has to get over that hump,” said Richard Reibstein, a lecturer of environmental law and policy at Boston University, as well as an advocate for lower-impact equipment. “Then other states can follow them.”

It’s unclear exactly how long that process might take. In the meantime, though, municipalities across the country, as well as the state of Hawaii, have enacted some form of leaf blower restrictions. In December 2018, D.C. Mayor Muriel Bowser signed a bill banning the use of gas-powered leaf blowers, to go into effect in 2022. And Massachusetts is considering a bill that would provide incentives for cities and towns to transition toward quieter, lower emissions equipment.

But California’s bill is decidedly further-reaching than existing measures.

“It’s much broader,” said Jamie Banks, the founder of the nonprofit Quiet Communities. “I think it’s going to wake people up to the possibility that transition is possible and may even become necessary.”

From Audubon Magazine

Why Cities are Taking Action to Limit Loud and Polluting Lawn Care

Fossil-fuel powered leaf blowers spew noise and pollutants—and people working at home are noticing more.

It was still early enough in the pandemic that my Zoom meetings felt novel, and spring birdsong brought hope of a swift return to normalcy. Then the roar of a gasoline-powered blower drowned out both. The goldfinches outside took flight. Shutting my window only muffled the noise.

You're likely fortunate if loud lawn care is high on your list of problems in the past year. But blowers can be more than a nuisance. Some produce more than 100 decibels of low-frequency, wall-penetrating sound—or as much noise as a plane taking off—at levels that can cause tinnitus and hearing loss with long exposure. Beyond that, gas-powered lawn care of all kinds spews pollutants linked to cancers, heart disease, and asthma, and blowers blast air up to 280 miles per hour, eroding topsoil and sending pollen, fertilizers, and herbicides adrift. Workers who spend hours a day with equipment are most at risk.

But if blowers are loud, people speaking out about the issue have been getting louder, too—especially as more adults and kids work from home. More than 100 U.S. cities and towns now ban gas-powered leaf blowers or limit their use. This September, for example, Larchmont, New York, became the first northeast town to pass a complete ban, and California, where some 80 cities have issued regulations, has consideredphasing out gas-powered garden tools altogether.

In Montclair, New Jersey, councilor-at-large Peter Yacobellis has heard constituents bring up the environmental, noise, and health issues of blowers on a near daily basis in 2020. "It's sort of a triple whammy in terms of addressing multiple quality-of-life issues at the same time," he says. The city has had some restrictions on their use since 1995, but, as in many towns, enforcement is lax and awareness limited, he says.

That's changing, as volunteer groups, with names like Quiet Montclair, Quiet Clean D.C., and Quiet Clean PDX, take on the issue. They not only push for stronger restrictions or bans, but also promote the use of quieter and less-polluting lawn maintenance equipment, helping to educate communities where enforcement lags, Yacobellis says. As alternatives, such groups also promote electric or hand-powered tools, plus an approach that leads to less work and better wildlife habitat, such as allowing leaves to remain where they fall. To that end, they encourage leaving some leaves for overwintering insects; returning mulched leaves to garden beds to act as fertilizer for plants and habitat for salamanders, snails, and toads; and waiting to spring to cut back perennials so insects can overwinter and birds to feed on the seeds.

The number of lower-emission landscapers around the country is also growing, with some building in other sustainable services, such as using organic fertilizer and replacing invasive species with natives and drought-tolerant plants. "A lot of people who come to us seem to be dog owners and families with young kids," says Craig Martin, owner of Clean Air Lawn Care, St. Louis, which is one of some 40 franchises around the country. "They're concerned about their family's health and safety. That's where we come in."

Quiet Clean PDX in Portland, Oregon, for example, lists more than 20 landscaping companies proactively embracing the trend. “If they don’t use gas-powered tools, they can be on the list, and we encourage people to hire them,” says volunteer Albert Kaufman, who notes many of these businesses seem to be “busier than ever.”

Still, technology and costs can limit the pace of change. Although battery equipment for electric equipment is continually improving, it does not yet match the power of gasoline-based tools. As a result, it may take longer or be costlier to do the same work. George Carrette, owner of EcoQuiet Lawn Care in Massachusetts, encourages customers to take a more relaxed approach to their yards, but ultimately, it’s up to them. “If you want everything scoured perfect, you’ll pay more,” he says.

Of course, for those looking for a project this spring, there’s an alternative: getting rid of high-maintenance yards and seeding native plants instead.

This story originally ran in the Spring 2021 issue as “Birdsong, Interrupted.”

https://www.audubon.org/magazine/spring-2021/why-cities-are-taking-action-limit-loud-and

Gas-Powered Leaf Blowers: the End is Nigh

Just in time for autumn, a guide to what you need to know about the most polluting form of machinery still in legal use in the US. It won't be for long.

James Fallow
October 2, 2021

https://fallows.substack.com/p/gas-powered-leaf-blowers-the-end

This is a one-time post to pull together resources, links, and info on a topic I've followed for a long time. Let's start with a brief quiz.

Check out the two photos below. One, of chronic congestion on freeways in my Southern California homeland. The other, of familiar modern "gardening" practices.

Which do you think is overall a greater contributor to certain kinds of air pollution, carcinogenic emissions, lung disease, and hearing loss, in our nation's most populous state? (Both photos via Getty Images.)

Above, a defect of modern urban life.

Below, another one—which is much more easily correctable.

By the way I've posed the question, you already know the answer.

Pound for pound, gallon for gallon, hour-for-hour, the two-stroke gas powered engines in leaf blowers and similar equipment are *vastly* the dirtiest and most polluting kind of machinery still in legal use.

- According to the California Air Resources Board (CARB), the two-stroke leaf blowers and similar equipment in the state produce more ozone pollution than *all* of California's tens of millions of cars, combined.
- And according to the federal Environmental Protection Agency, two-stroke engines expose their operators to unusually high levels of carcinogens, including benzene and other dangerous substances. From an EPA paper:

"A more cogent concern is their [two-stroke engines] potential as a source for air toxic exposure to operators. Laborers in the landscape industry frequently operate these devices for extended periods, thus exposing themselves to high concentrations of exhaust gases over a prolonged period of time.

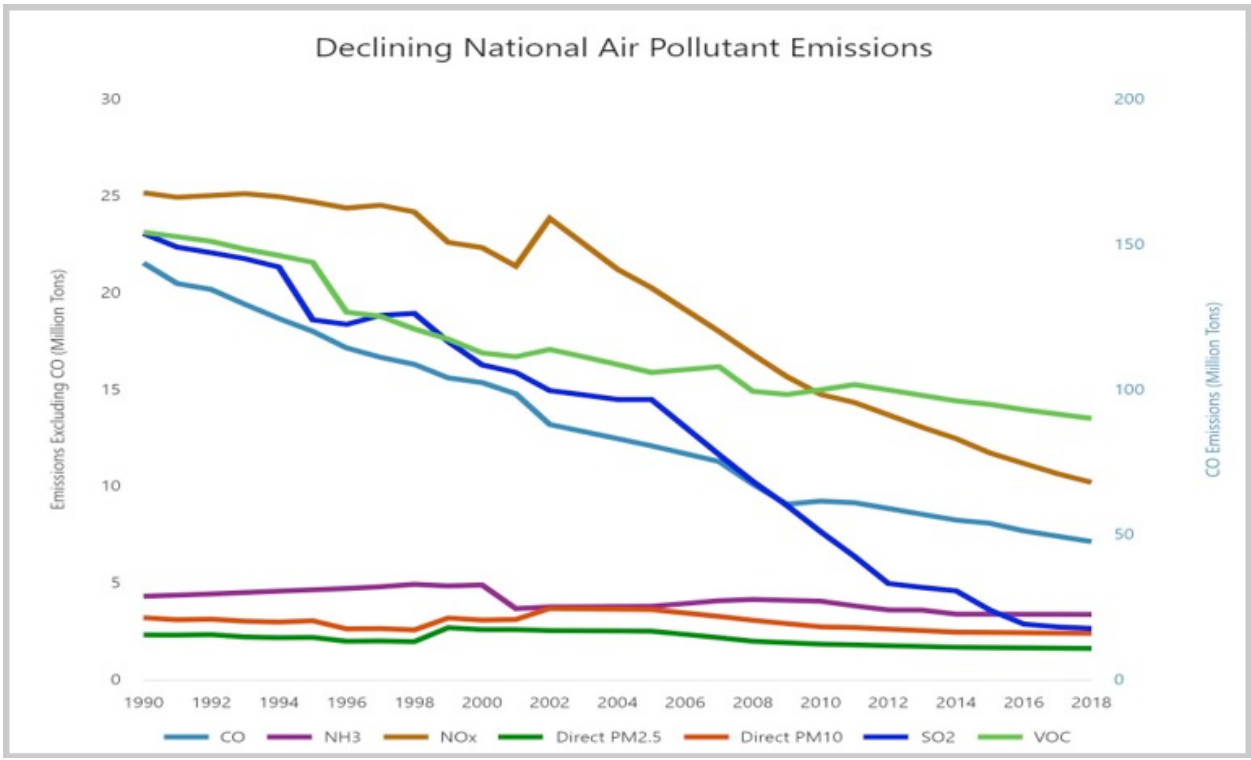
"Since the exhaust gases consist of large fractions of unburned gasoline, there is a likelihood that workers are being adversely exposed to benzene, 1,3-butadiene, and other possible toxic compounds [including formaldehyde, acetaldehyde, particulates, and poly-aromatic

hydrocarbons] contained in gasoline.

”Toxic compounds produced during combustion may also present a hazard.”

How can such little engines do so much damage? It’s all about technological progress, and the lack of it:

- Over the past 50 years, gasoline engines for trucks and automobiles have become *so* much more efficient that they have reduced most of their damaging emissions-per-mile by at least 95 percent. This is not even to mention the rapid onset of electric-powered vehicles. Per the EPA, here is the trend for overall U.S. emissions since 1990, with a significant part of the improvement coming from cars and trucks:



- Two-stroke engines, by contrast, are based on long-obsolete technology that inefficiently burns a slosh of oil and gasoline, and pumps out much of the unburned fuel as toxic aerosols. If these engines were shown on the chart above, their emission levels would essentially be an unimproving flat line. They’re the basis of noisy, dirty scooters and *tuk-tuks* in places like Jakarta, Hanoi, Manila, and Bangkok, where they’re being phased out as too polluting.

  Using a two-stroke engine is like heating your house with an open pit fire in the living room—and chopping down your trees to keep it going, and trying to whoosh away the fetid black smoke before your children are poisoned by it.

A two-stroke scooter in New Delhi. (Getty Images)

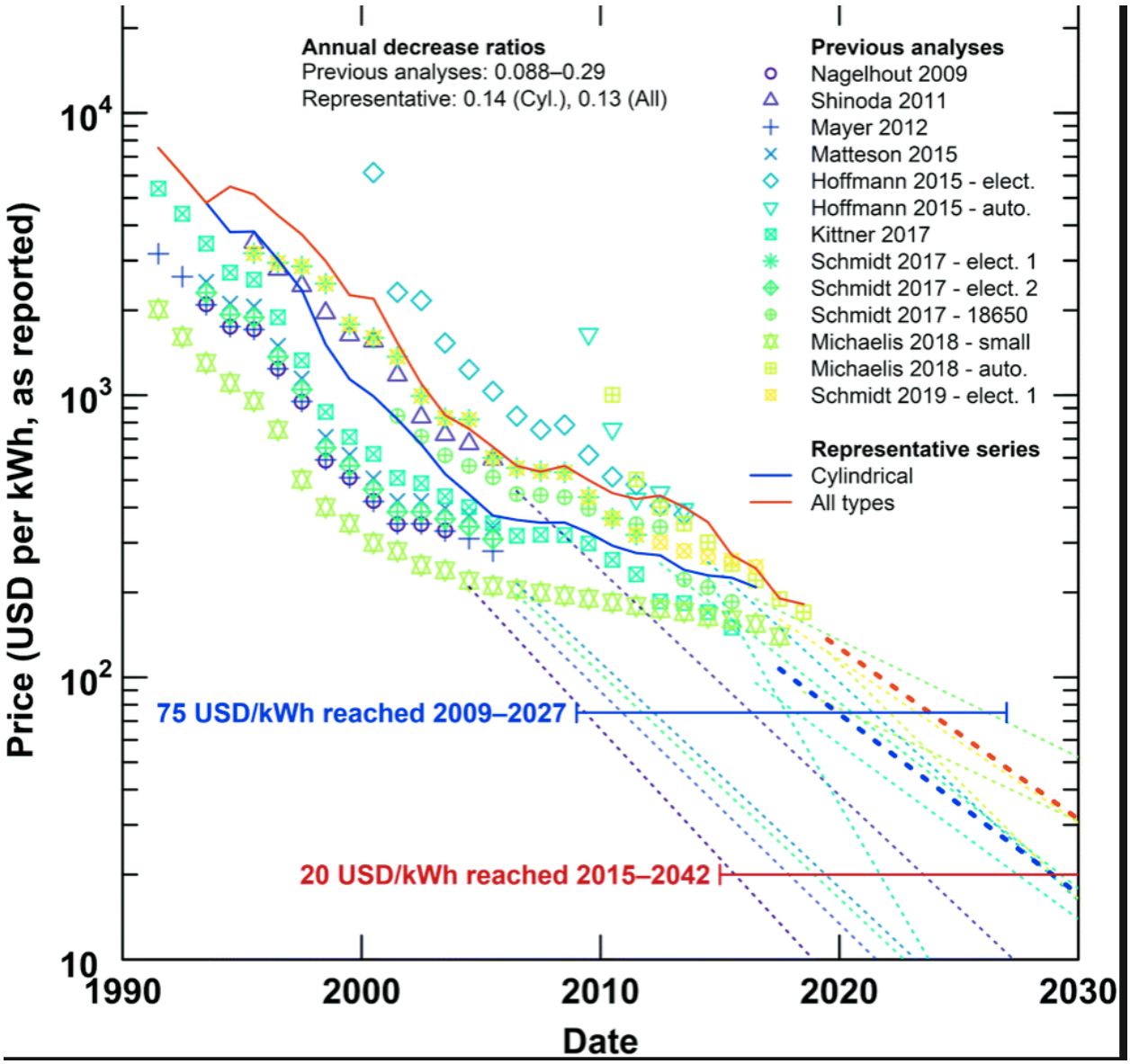
But these machines persist in American landscaping because they are *cheap*. And because—to be brutally honest—the people paying the greatest price in much of suburban American are the hired lawn-crew workers.

Those workers are convenient to hire, at the moment. But they are not likely to be in the neighborhood 10 or 15 years from now, when they are deafened, or have lung disease, or need other forms of care as the worst long-term health consequences kick in.

Here is the four-point summary and guidebook to all the links and information included below.

1. Gas-powered leafblowers seem like a niche concern, but they represent a *significant* public-health challenge. From an air-pollution point of view, avoiding them is one of the easiest single steps householders can take to reduce the damage they do. And hearing loss, especially among lower-wage people, is one of America's fastest-growing public health threats.
   You may be "annoyed" by a leaf-blowing crew working five households away. The crew members are earning a living at the moment, but they are likely to suffer permanent hearing damage, which leads to many other problems.

2. The use of damaging lawn equipment is an environmental-justice issue. By tolerating it, householders are saying: It's not really my problem, if these workers are deafened and exposed to benzene and high PM2.5 emissions. At least my lawn looks neat! And the bills are low. Plus, I can be away from the house when the noisiest blowing is going on.
3. The noise produced by two-stroke engines really is different from other sounds. New acoustic research shows that its distinctive low-frequency noise penetrates vastly further than other machine-generated sound waves. It goes through solid walls.
4. There is an obvious, rapidly improving alternative. That is battery-powered equipment (to say nothing of rakes). It's following the worldwide trend in becoming cheaper, more powerful, and more practical. Here's one of many illustrations of the price/performance/ power improvements in batteries.



If batteries can power a multi-ton F-150 truck, it is fatuous for landscapers to say that they aren't strong enough for a dozen-pound leaf blower.

That's the summary. Now, here are some references, which are the main purpose of this entry:

- For an overall guide to these issues, please see this *Atlantic* article; this site from the civic organization Quiet Clean DC; and these two pages (here and here), with many other references.
- For some other organizations working on this issue, please see Quiet Communities, Quiet Clean Seattle, Noise Free America, and the many links they provide.
- For why dealing with this gratuitous source of pollution is not a "first world problem" but instead a question of environmental justice for hired lawn crews, please see this entry—which, to be clear, is from me;
- For why the noise from gas-powered leafblowers is uniquely penetrating, please see this acoustic study, and this explanation from an earlier article. Summary:
  "Gas-powered blowers produce far more 'sound energy' in the low-frequency range. This may seem benign—who doesn't like a nice basso profundo?—but it has a surprising consequence.
  "High-frequency sound—a mosquito's buzz, a dental drill—gets your attention, but it does not travel. It falls off rapidly with distance and struggles to penetrate barriers. If you're in the next room, you may not hear it at all.
  "By contrast, low-frequency noise has great penetrating power: It goes through walls, cement barriers, and many kinds of hearing-protection devices. The acoustic study found that in a densely settled neighborhood, a gas-powered blower rated at, say, 75 decibels of noisiness can affect up to 15 times as many households as a battery-powered blower with the same 75-decibel rating."
- In 2018 the D.C. City Council voted unanimously in favor of a three-year phased-in ban on gas-powered blowers. That vote came after support from Advisory Neighborhood Commissions all across the District, and on the basis of testimony you can read here. The D.C. changeover will take effect on January 1, 2022. You can read more about it here.
- For a list of companies making battery-powered equipment, start here and prowl around. We are fans of the EGO line of battery equipment, which we have bought and used.

We look back in (disapproving) wonder at the citizens of turn-of-the-century New York and Chicago, who allowed horse manure to pile up on their streets by the countless tons per day. We look back on the U.S. motorists of the 1950s and 1960s, zooming around with no seat belts and fully-leaded gasoline.

Someday soon, people will look back in disapproving wonder on the several-decade toleration of these two-stroke nuisances.

That someday cannot come soon enough.