

TO: CEPAC

From: Gary Shaff

Date: 12/9/2024

RE: Small Engines Subgroup recommendation regarding the phase-out of gas-powered lawn and garden equipment

The Small Engines Subgroup has met multiple times throughout the past year to explore:

- 1) the impacts of gas-powered lawn and garden equipment (GPLG) on the environment, climate and human health,
- 2) various strategies to phase-out some types of GPLG, and
- 3) a conceptual time-frame for their phase-out.

The Subgroup's report entitled Phase-out of Gas-powered Lawn and Garden Equipment - Report from the Small Engines Working Group to the Ashland Climate and Environment Policy Committee details the Subgroup's findings and recommendations. It also includes an updated summary of the Subgroup's public engagement process and associated data.

The phasing plan, as included in the report, is anticipated to begin in fiscal year 2025 and be completed by the end of calendar year 2030 and includes the following:

Phase 1 - Initiate an education and information campaign focused on:

- a) adverse human health impacts of GPLG,
- b) adverse environmental impact of GPLG,
- c) adverse climate impact of GPLG.

Phase 2 - Provide incentives

- a) provide incentives for the purchase of battery or electric powered lawn and garden equipment.

Phase 3 - Ordinance adoption (as may be needed to ensure consistency among all Ashland households) leading to the **mandatory phase-out of GPLG blowers, string trimmers, lawn mowers, non-commercial use of chainsaws, and hedge trimmers by the end of calendar year 2030.**

Subgroup Recommendation:

The subgroup recommends that CEPAC endorse the phasing plan, and ask the City Council to convene a study session to review the report and its recommendations.

Motion:

I move that CEPAC endorse the Subgroup's recommended phasing plan and request a study session with the City Council to review the phase-out of gas-powered lawn and garden equipment report.

Phase-out of Gas-powered Lawn and Garden Equipment

Report from the Small Engines Working Group to the Ashland Climate and Environment Policy Committee

Introduction

The subgroup's recommendation on the phase-out of gas-powered lawn and garden equipment (GPLG) is organized as follows:

- 1) Pertinent Climate and Energy Action Plan (CEAP) strategies and goals.
- 2) Relevant sections of the Climate and Environment Policy Advisory Committee Charter
- 3) Subgroup's recommendation regarding the phase-out GPLG
- 4) Approach and community engagement related to the GPLG phase-out
- 5) Air Quality Impact of GPLG
- 6) Health Impacts of GPLG
- 7) Climate Change Impact of GPLG
- 8) Noise Impact of GPLG

Climate and Energy Action Plan (CEAP)

Public Health, Safety + Well-being

PHSW-3-1: Work with vulnerable populations to create specific adaptation strategies that address public health.

Goals and Indicators

Goals: Protect public health from air pollution and climate impacts.

Consumption + Materials Management

CM-1-1. Implement an education campaign for waste and consumption reduction strategies.

CM-1-3. Determine and implement effective ways to reduce and track consumption-based emissions.

Goals and Indicators

Goals: Reduce consumption of climate intensive food, products and services.

Cross-cutting Strategies

CC-1-1. Create a formal public outreach and education plan to inform the community about climate actions.

Goals and Indicators

Goals: Increase awareness of city climate goals and needs.

Climate and Environment Policy Advisory Committee Charter

The CEPAC shall be responsible for assisting the City in the following:

1. Making recommendations on strategies, actions and programs related to the implementation and updating of the Climate and Energy Action Plan (CEAP) in furtherance of its climate mitigation and adaptation goals and strategies per AMC 9.40.
4. Providing recommendations to ensure the City of Ashland's climate and environmental planning incorporates long-term social, economic and environmental goals, including social equity for low-income households, persons of color, the young and elderly, and those with disabilities.

Recommendation - the phase-out of gas-powered lawn and garden equipment (GPLG)

The following phasing plan is anticipated to begin in fiscal year 2025 and be completed by the end of calendar year 2030.

Phase 1 - initiate an education and information campaign focused on:

- a) adverse human health impacts of GPLG,
- b) adverse environmental impact of GPLG,
- c) adverse climate impact of GPLG.

Phase 2 - provide incentives

- a) provide incentives for the purchase of battery or electric powered lawn and garden equipment.

Phase 3 - ordinance adoption (as may be needed to ensure consistency among all Ashland households) leading to the mandatory phase-out of GPLG blowers, string trimmers, lawn mowers, non-commercial use of chainsaws, and hedge trimmers.

Approach and Community Engagement

The phase-out of gas-powered lawn and garden equipment is identified as a priority on CEPAC's 2024 and 2025 work program. A subgroup of the CEPAC was formed to focus on the topic with CEPAC members Sidney Brown, Mark Morrison, and Gary Shaff who attended subgroup meetings regularly, while Bryan Sohl attended when he could. Many subgroup meetings were also attended by members of the general public who were invited to participate in the subgroup's discussions.

The subgroup met five times. One meeting included a conversation with Steve Geis, Parks Supervisor, Ashland Parks and Recreation Department. It should also be noted that Mark Morrison serves on CEPAC as the representative of the Ashland School District.

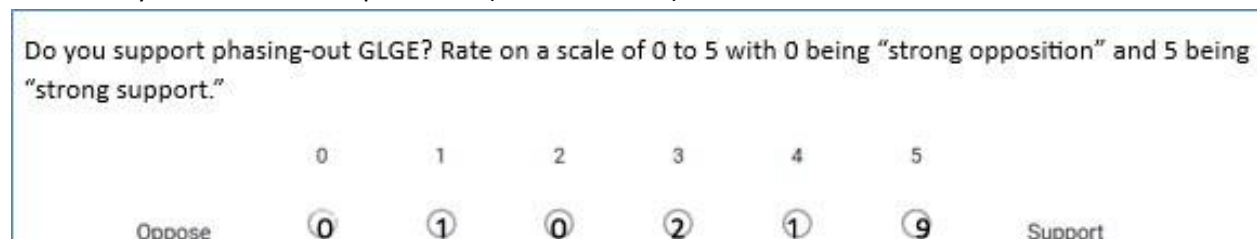
Public Outreach

On September 25, 2024 the subgroup held a public information session to elicit the general public's views on a draft GPLG phase-out recommendation. The meeting was advertised on the city's webpage and in Ashland News. First class mailed notice was also provided to Ashland landscape businesses possessing an Ashland city business. The subgroup's draft recommendation, at the time and as described in the Ashland News article, included:

- Establishing city sponsored incentives for the purchase of electric or battery powered equipment,
- Phasing-out of the following equipment on lots one-half acre or less as of 2026.
 - gas-powered blowers
 - gas-powered weed whackers/string trimmers
- Phasing-out of the following equipment on lots one-half acre or less as of 2027
 - gas-powered lawn mowers
 - non-commercial use of gas-powered chainsaws
 - gas-powered hedge trimmers
- Phase-out of the above city-wide by 2030.

The public expressed strong support for the draft recommendation. In fact, 63 percent of all respondents to the subgroup's questionnaire reported strong support for phasing-out the use of GPLG, (i.e. indicating their support at 5 on a scale of 0 to 5, with 0 being "strong opposition" and 5 being "strong support").

Community Questionnaire – question 2 (residents et. al)



Additionally, almost 70 percent of residents (et. al.) who answered the question believed the timeline for phasing-out the equipment, as listed above, "provide[d] enough time for residents, businesses and governments to transition from gas-powered to electric or battery powered equipment."

Community Questionnaire – question 3

The above listed GLGE equipment could be “phased out” by 2030 and possibly as early as 2026 or 2027 on lots of a half-acre or smaller. Do these timelines provide enough time for residents, businesses and governments to transition from gas-powered to electric or battery powered equipment?

YES 9

NO 4

NA 2

The complete report is included in Appendix A.

Air Pollution

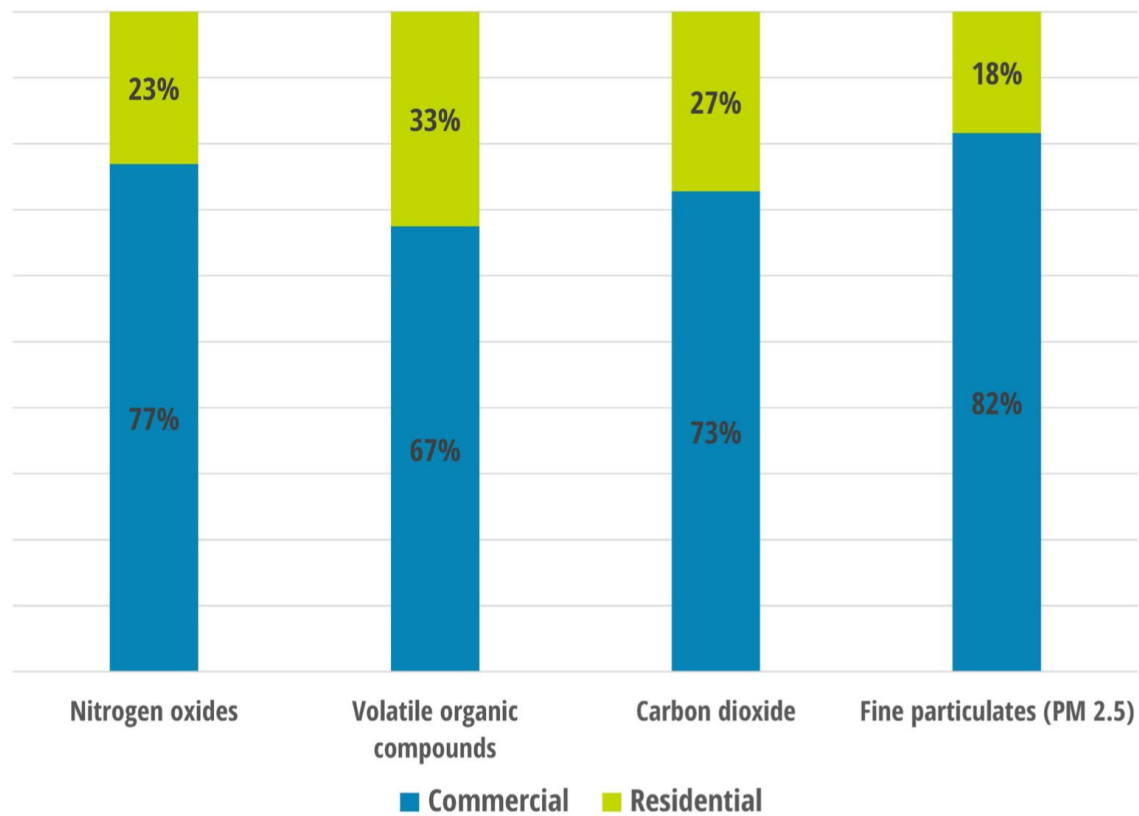
Lawn care equipment is a major source of U.S. air pollution.

“Pollution from ...millions of lawn and garden machines adds up. According to data for 2020 from the [U.S. Environmental Protection Agency](#), fossil fuel-powered lawn equipment emitted ...

- Nearly 22,000 tons of **fine particulates** – pollutants that have been linked to [respiratory ailments, reproductive and mental health issues, and even premature death](#). That’s as much pollution as would be produced annually by **234 million typical cars**.
- More than 68,000 tons of nitrogen oxides and 350,000 tons of volatile organic compounds – the two chemical components of **ground-level ozone**, which triggers [asthma attacks and contributes to premature death](#). Nitrogen oxide emissions from lawn equipment are equal to annual emissions from **30 million typical cars**.
- More than 30 million tons of **carbon dioxide**, the leading cause of global warming. That’s more climate-altering pollution than was produced in the [city of Los Angeles](#) in 2021.
- A wide array of **chemicals that cause cancer**, including benzene and formaldehyde. This pollution takes place in our neighborhoods where children, seniors and other vulnerable people live.”

(Source: <https://environmentamerica.org/center/resources/lawn-care-goes-electric/>)

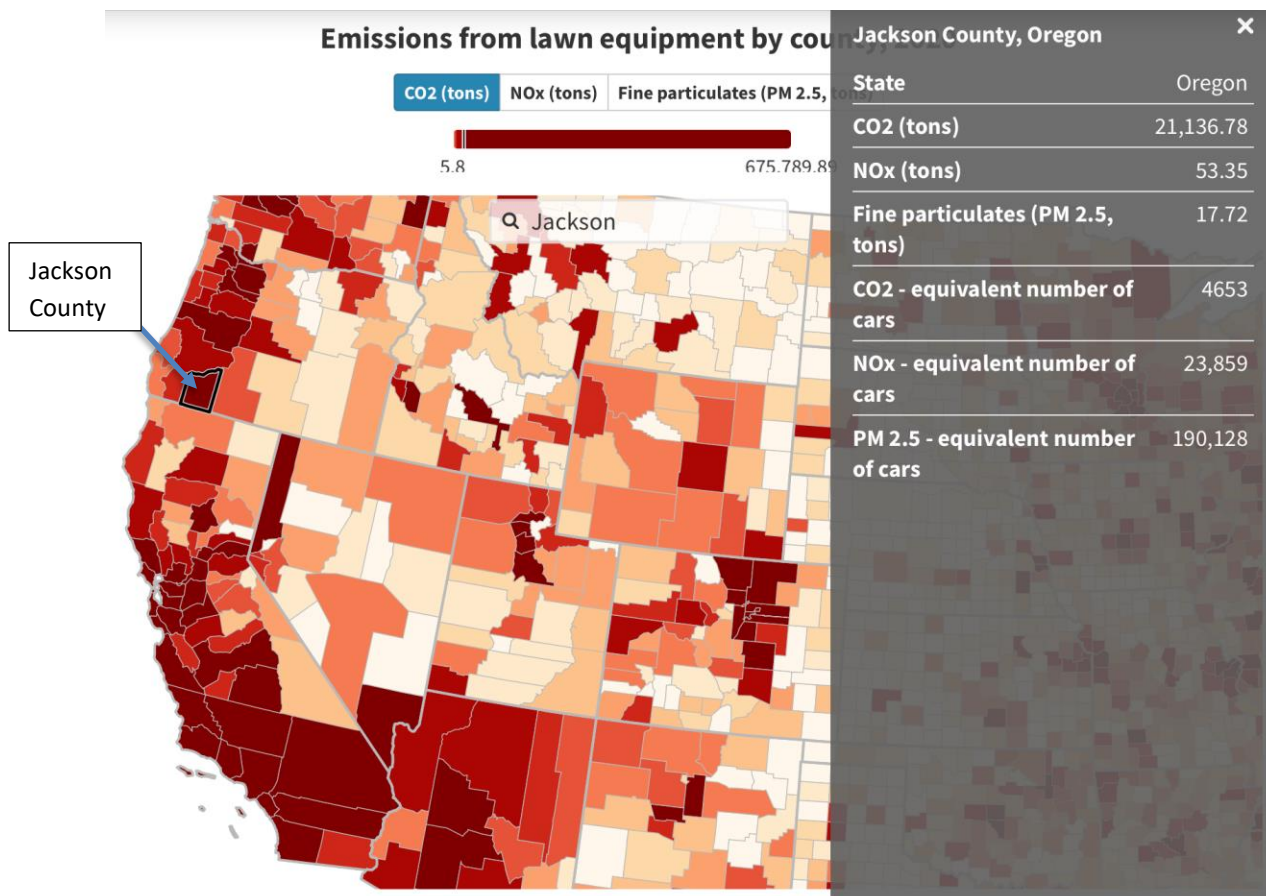
The vast majority of pollution from lawn and garden lawn equipment comes from commercially operated equipment.



Share of pollution from commercial and residential lawn equipment

(Source: https://publicinterestnetwork.org/wp-content/uploads/2023/10/Lawn_Care_Goes_Electric_Oct23.pdf)

Emissions from lawn and garden equipment in Jackson County are shown below. The adjoining map serves to show the relative contribution of each county to nationwide lawn and garden emissions. Lawn and garden emissions in Jackson County are among the highest in the state and nation.



Source: <https://environmentamerica.org/center/resources/lawn-care-goes-electric/>

Health Impacts

“The California Air Resources Board (CARB) staff conducted a study and preliminary findings indicate elevated exposures to criteria and toxic air pollutants for operators of gasoline-powered devices compared to electric devices and background levels. Of the devices tested, gasoline-powered chainsaws emitted the highest amounts of VOCs. The increased exposures to benzene and 1,3-butadiene from gasolinepowered chainsaws were estimated to produce between 41 to 158, with an average of 81, possible additional cancers per million workers exposed. Moving towards zeroemission technologies may help reduce operators’ exposure and their associated health risks.” ([California Resources Board - Exposure study summary 12 OCT 2018](#))

“Carbon monoxide is a colorless, odorless gas produced by incomplete combustion. It is very difficult to separate the potential effects of carbon monoxide from those due to other respiratory irritants. Individuals working with gas-powered engines are also exposed to high concentrations of other combustion components of smoke and exhaust. (*World Health Organization - Effects of Carbon Monoxide on Humans*)

“A large body of health science literature indicates that exposure to NO₂ can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standard for NO₂, is results from controlled human exposure studies that show that NO₂ exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO₂ exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses.” [\[California Air Resources Board\]](#)

Ozone is created when heat and sunlight react with nitrogen oxides and Volatile Organic Compounds. “When inhaled, ozone can damage the lungs. Relatively low amounts of ozone can cause chest pain, coughing, shortness of breath and throat irritation. Other health hazards: premature death, cardiovascular effects, asthma, lower birth weight and decreased lung function in newborns. (US EPA - *Ozone and Your Health*)

Gasoline exposure is associated with renal and liver cancer, acute myeloid leukemia (AML), myeloma, heart disease and irritant effects (*Potential Health Effects of Gasoline and Its Constituents: A Review of Current Literature (1990-1997) on Toxicological Data*, L. Caprino et.al.)

“Children, seniors, and persons with chronic illnesses are especially vulnerable to the negative health impacts of GLGE emissions. Routine use of GLGE in the vicinity of residential neighborhoods, schools, parks and other public spaces may be exposing the public to unnecessary and preventable health risks.” California Air Resources Board, [Exposure study summary 12 OCT 2018](#)

Climate Change

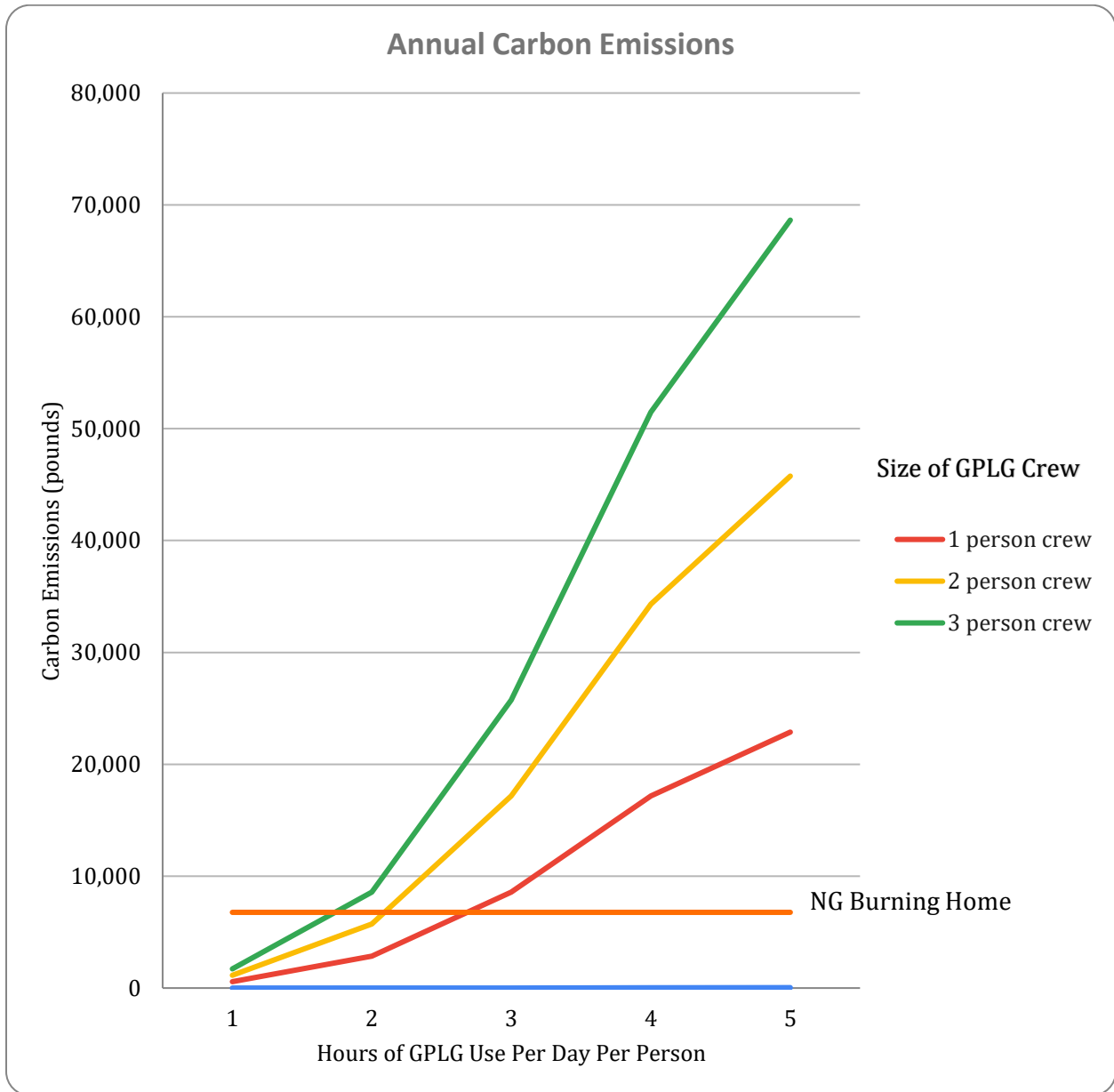
Gas-powered lawn and garden equipment typically consume between 0.5 and 1 gallon of gasoline per hour of operation. At 0.43 gallons per hour, The Stihl USA Backpack Blower consumes 0.43 gallons of fuel per hour of operation <https://www.stihlusa.com/products/technology/backpack-blower-fuel-savings-calculator/>

That translates into emitting 11 pounds of CO₂ per hour of use. This equipment and other gas-powered lawn and garden equipment also emit large quantities of fine particles and black carbon, due to the incomplete combustion of fuel. The particulates have additional global warming effects beyond the CO₂ released during combustion. In fact, “black carbon has recently emerged as a major source of global climate change, possibly only second to CO₂ as the main driver of change.”

<https://www.c2es.org/document/what-is-black-carbon/>

In comparison, the average home served by Avista consumes 47 therms per month which produces 6,813 pounds of CO₂ emissions per year. (Source: Rogue Valley Times, 11/30/2024, Avista notice of rate increase).

The annual emissions associated with a commercial lawn and garden equipment operator, depending upon the number of hours per week they operate gas-powered equipment, can dwarf the emissions from a single natural gas heated home. The following graphic helps to inform the relationship.



By comparison, the hours of use of GPLG by individual households is quite low and emissions would be much, much lower when compared to commercial operators. Assuming one hour of use per week throughout the year, emissions would be less than 10 percent of a natural gas heated home ignoring the emissions associated with spilled fuel. "EPA estimates that over 17 million gallons of gasoline is spilled as garden equipment is refueled each year.(source:

<https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/ard-22.pdf>).

Noise

Virtually all gas and electric powered lawn and garden equipment is noisy. The table below illustrates that fact.

Noise Comparisons – Gas versus Electric Powered Lawn & Garden Equipment

Equipment Type	Gas Operated ⁴	Electric
Lawn Mower (non-commercial)	88-94 DBA	75 ⁵ DBA
Weed Whacker (non-commercial)	94-96 DBA	88 ⁶ DBA
Leaf Blower (non-commercial)	95-105 DBA	65-70 ⁷ DBA

4. <https://www.nonoise.org/library/household/index.htm>
5. <https://cleanairlawncare.com/electric-lawn-equipment-is-quiet/#:~:text=Electric%20lawn%20mowers%20and%20lawn,drives%20away%20%E2%80%94%20it's%20pretty%20loud.>
6. <https://egopowerplus.co.uk/ego-news/the-results-are-clear-battery-power-tools-are-a-safer-option-than-petrol>
7. <https://www.leafscore.com/eco-friendly-garden-products/why-leaf-blower-bans-on-the-rise/#:~:text=Noise%20levels,range%20between%2065%20and%2070.>

It bears noting that noise is measured with a logarithmic scale. Meaning that an increase in noise by 10 DBA is a doubling of the noise levels. Consequently, it can be said, based upon the above data, that electric powered equipment is significantly quieter than their gas-powered equivalent.

“You can listen to sounds at 70 dBA or lower for as long as you want. Sounds at 85 dBA can lead to hearing loss if you listen to them for more than 8 hours at a time. Sounds over 85 dBA can damage your hearing faster. The safe listening time is cut in half for every 3-dB rise in noise levels over 85 dBA. For example, you can listen to sounds at 85 dBA for up to 8 hours. If the sound goes up to 88 dBA, it is safe to listen to those same sounds for 4 hours. And if the sound goes up to 91 dBA, your safe listening time is down to 2 hours.” American Speech-Language-Hearing Association, [Loud Noise Dangers](#)

It bears noting, as shown in the table, above, that gas operated weed whackers and leaf blowers emit noise at, or above 91 dBA while their electric equivalent are at, or below 88.

Appendices:

- A) Community survey, outreach and comments
- B) Sample legislation - Bainbridge Island
- C) University of Arkansas – Return on Investment Analysis gas versus electric GPGE
- D) Sample commercial rebate program description

Appendix A

Community Engagement Report
from the Small Engines Working Group
regarding
Phase-out of Gas-powered Lawn and Garden Equipment

Updated 12/24/2024

On Wednesday September 25, 2024 the GLGE working group invited Ashland residents and Landscaping Business Owners to attend an open working session to discuss a proposed strategy for the phasing out of gas -powered lawn and garden equipment (GLGE). CEPAC members Bryan Sohl, Mark Morrison, Gary Shaff, Sidney Brown and staff member Chad Woodward participated in the meeting.

To publicize the open working session, we sent letters to licensed lawn and garden firms inviting them to the meeting; a notice of the meeting was published in the Ashland News, and a meeting notice was also provided on the city's website. Approximately six members of the public attended the first session and an additional three attended a later shorter recap later the same day.

Gary Shaff presented a brief overview of why the working group believes it's important to phase out the use of gas-powered lawn and garden equipment (GLGE):

To reduce greenhouse gas and other pollutant emissions

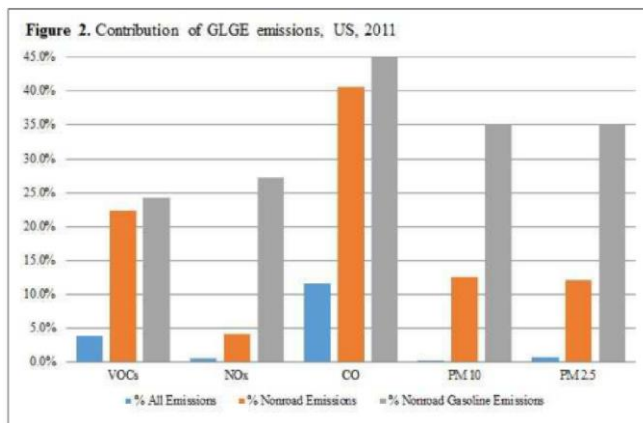
Protect human health

To protect the natural environment

Increase sustainability eQorts

Improve the overall quality of life within the City of Ashland

A graph from 2011 showing pollutants associated with GLGE was also shared.



Statistics on the relative hours of commercial users versus residential users of the most popular lawn equipment were shared, as were the related emissions of each. The noise impact was also discussed.

The working group then presented a possible phase-out strategy for equipment under 25 horsepower and invited the participants to comment. The proposed phase-out would apply to lots 1/2 acres from whenever enacted until 2030. In 2030, the ban on these five pieces of GLGE would apply to all lands, regardless of lot size, including lands owned by SOU, ESD and APRC. A short survey was also available. The results of the survey follow.

Equipment < 25 horsepower

Prohibited as of:

Gas blowers and string trimmers (i.e. weed whackers)

1/2026 (or 1 year after adoption)

Hedge trimmers, non-commercial chainsaws and lawnmowers

1/2027 (or 2 years after adoption)

The feedback from the public was positive overall but there was some concern that the phase-out should not cost the residents any money.

Residential Survey Results: (15 Surveys in hand as of 9/25; 12 residents; 2 former residents; and 1 CA resident)

Do you think climate change has impacted or is impacting Ashland?

Yes – 14

No - 1

Do you support phasing-out GLGE? Rate on a scale of 0 to 5 with 0 being “strong opposition and 5 being “strong support.”

5 – 9

4 – 1

3 – 2

2 – 0

1 – 1

0 – 1

NA - 1

The above listed GLGE equipment could be “phased out” by 2030 and possibly as early as 2026 or 2027 on lots of a half-acre or smaller. Do these timelines provide enough ‘me for residents, businesses and governments to transition from gas-powered to electric or battery powered equipment?

Yes – 9

No – 4

NA - 2

An incentive might be available to ease the transition between gas and electric/battery powered lawn and garden equipment. On a scale of 0 to 5, how important do you think an incentive is to the success of the phase-out? Rate using with 0 being “not at all” and 5 being “extremely important.”

5 – 11

4 – 3

3 – 0

2 – 1

1 – 0

0 – 0

NA - 0

How would you best describe yourself?

Resident - 12
(+ other – climate activist)

Owner – 0

Local Gov’t Rep- 1

Other: Former Resident - 2

Do you own or use GLGE?

No – 10

Yes - 5

If yes, please list the equipment that you use and the estimated hours that you use it each year (use back of page if more space is needed).

Chipper
String Trimmer – 5 hours per year
Chain saw - about 100 hours

Name (optional). If you'd like to receive updates about the phase-out strategy, please include your email address.

If you have other comments/suggestions, please use the space on the back of this page.

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Commercial landscaping company Survey Results: 5 (one via email, three by mail; one in person)

Do you think climate change has impacted or is impacting Ashland?

Yes – 4

No - 1

Do you support phasing-out GLGE? Rate on a scale of 0 to 5 with 0 being “strong opposition” and 5 being “strong support.”

5 – 3

4 – 1

3 – 0

2 – 0

1 – 0

0 – 1

NA - 0

The above listed GLGE equipment could be “phased out” by 2030 and possibly as early as 2026 or 2027 on lots of a half-acre or smaller. Do these timelines provide enough 'me for residents, businesses and governments to transition from gas-powered to electric or battery powered equipment?

Yes – 3

No – 2

NA - 0

An incentive might be available to ease the transition between gas and electric/battery powered lawn and garden equipment. On a scale of 0 to 5, how important do you think an incentive is to the success of the phase-out? Rate using with 0 being “not at all” and 5 being “extremely important.”

5 – 2

4 – 1

3 – 0

2 – 0

1 – 0

0 – 2

NA - 0

How would you best describe yourself?

Resident – (3 identified) Owner/ employee of lawn & garden maintenance firm – 4

Other: Design professional - 1

Do you own or use GLGE?

No – 2 Yes - 3

If yes, please list the equipment that you use and the estimated hours that you use it each year (use back of page if more space is needed).

All electric for 10 years

Not important – stupid question! You need to research how/where raw materials

No idea. This subject should be dropped completely

We went all electric 3-4 years ago. I have a pro mower and weedeater as back up – haven't started them in 2 years

Name (optional). If you'd like to receive updates about the phase-out strategy, please include your email address.

Jeanine Sturm of This Season's Color, Inc.
Kerry KenCairn

You will here [sic] from all of us. You want us to work for you, but not live too close & not pay too much. We will fight your racism. We will go national with this. I did.

Kim Blackwolf, Fine Day Garden Care

If you have other comments/suggestions, please use the space on the back of this page.

For professionals, a grant or such of \$800 or so would be important. To fully switch to electric costs at least \$2000 each crew.

See attached scan.

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Written Public Comment: 20 emails received: 15 for (2 from one resident) and 6 against as of 9/27/24)

For:

1) Ben S. via email: I'm glad to see this on the agenda, though also disappointed that it has taken years to get even this far. I have written letters in the past to city council, the mayor, etc. Some of my letters go back well over ten years! Adam Hanks was city manager back then and this topic has come up fairly often.

The responses I've gotten from Mayor Graham and a couple of city councilors have basically said, "it's important and we'll get to it". Well...is this that time or more of let's study it to death and then maybe make a recommendation!

The focus on this issue should be that it is a **public health issue**! So many studies have now been done showing the harm GLBs (especially) cause; including:

Really bad air pollution - fine particulates, most notably PM 2.5 emissions (the same as wildfire smoke and car emissions). Why are we allowing more of it?

In addition to PM 2.5, other dried matter blown into the air; dust, pollen, animal feces, molds, etc

Noise pollution - very high decibels from these single stroke engines can cause hearing loss. And what about the workers (often Landscapers with little or no ear protection). How much do these workers (or their employers) value their own health?

Contributes to high stress in humans (animals too). Try keeping your windows open on a pleasant day while 1 or 2 GLBs are running next door or even down the street. The noise can easily be heard a quarter of a mile away!

Quality of life! Who doesn't get that?

Messes up gardens and landscapes - destroys pollinator habitat, soil erosion and compaction. Leave some leaves for mulch, for insects and birds!

I know people don't like "bans", but the greater good for all citizens should take priority. NOT the minority (Landscapers, other businesses, some homeowners, etc). Businesses should not be able to dictate what happens with this issue.

The idea of offering incentives would probably help. Voluntary actions only go so far and is usually never enough. A smart and benevolent government can and should make this an issue of health and safety that applies to all!

Oh, and there's one other thing - these fossil fuel machines add to global warming!!!

I could go on Chad but I've done this many times, and I feel to no avail. I was going to attend the meeting on this today but unfortunately can't make it.



Please circulate or even read my comments to the session. I won't mind

And know that I do appreciate all of your efforts!

2) Natalie L. via email: Hello Chad. Thank you for working on this issue. I vote yes! Please ban those noisy, bad for climate change, leaf blowers. Thank you.

3.) Brad R. via email: I am the owner of Abbod's Cottages here in Ashland. We have 8 smallish lawns and lots of plantings to care for. We switched all of our equipment to electric more than 10 years ago and it has worked perfectly. No more gas cans, no more loud noise. I hope that you have great success phasing out gas powered lawn and garden equipment.

4.) Christine D. via email: Please count me in as an Ashland resident in favor of eliminating all gas powered garden equipment ASAP. The noise pollution is unbearable to me, my husband and my dogs and the environmental pollution from the fossil fuels used has got to stop.

5) Erica R. via email: I am so grateful the issue of gas powered garden equipment is finally being addressed. I live in Ashland and have for 40 years. As I'm sure you know, the environmental impact of these tools are bad. But in addition to that, the noise pollution is also is a big factor especially with the awful leaf blowers. In addition, there is the fact that many users blow all their debris into the street and leave it there and make huge clouds of dust. I was alarmed to read that these changes, if there are any, might not take place EII

2030. REALLY????? Gas powered leaf blowers should be banned first and foremost and soon.

6) Julia S. via email: Please, please, please outlaw the use of polluting gas-powered gardening equipment, especially LEAF BLOWERS!!

They ruin the livability of Ashland, and have been outlawed in other towns and cities for some time. SURELY they exceed permissible noise levels??

7.) Margery W. via email: We have our own battery electric composting lawn mower, but recently it broke and we are aging. We'll get it fixed or replaced soon. But my husband insisted on hiring lawn maintenance people for our large front yard during the many years even when our lawn mower worked, though he would mow our back yard with our electric mower. We have a large front yard with three 50-year-old healthy trees that grew up with a lawn, and letting parts of the lawn grow dry resulted in one of the trees starting to die.

We are all for personal mowers and other equipment being electric. Unfortunately, lawn maintenance people so far have needed gas-powered because they do maintenance all day. Perhaps some day this equipment can run on relatively lightweight batteries that can be easily replaced periodically during the day and then charged in the evening. The availability of such should be researched, and certainly there would be a market for it if someone were to develop it. Cities should advocate for that.

I insisted that our lawn maintenance people mow over our many fall leaves. The fight against noise and air pollution would be greatly helped by banning gas leaf blowers. Educational efforts should be held to inform residents on using composting mowers to mow leaves also. Leaves and clippings help grass retain water, form mulch preventing weeds in other landscapes, and help birds and other animals by providing good habitat for worms and other benign organisms.

Leaf blowers also dry and heat the ground, increasing fire and drought probability. The increase in airborne allergies correlates to the time gas blowers became popular. Such a ban will increase the desirability of Ashland as a home.

Thanks for considering these points, and for your help in bringing up the issue again for Council consideration!

8.) David L. via email: For the record, I attended a meeting of Ashland's Climate and Environmental Advisory Committee when the group discussed the potential of phasing out use of gas-powered leaf blowers/mowers on smaller properties. I SUPPORT such a ban. Thank you.

9.) Udo G. via email: Please support the phasing out of gas-powered lawn and garden engines. We better do it today than tomorrow.

These little stinkers have no catalytic converters and contribute to the carbon monoxides destroying our earth.

Thank you for your consideration and help.

10.) Manual A via email: Just read about the meeting tomorrow in Ashland News. I cannot attend but would like to say that this sounds like a great idea. Reducing carbon emissions, decreasing noise pollution, and decreasing overall demand for fossil fuels are all benefits of this proposal.

Please consider options to making realization of this plan a likely outcome. Whether it is phasing in, step-wise, or whatever compromise, it is worth pursuing.

Thanks for the work.

11.) Leslie W. via email: I'm sure not all Ashlanders will agree with my sentiments on the subject PhaseOut. But, when I heard this item was on the City of Ashland's agenda, my reaction was:

HURRAH HURRAH! HURRAH!

I lived in Alameda, California for 26 years. The island is flat and, at any given time, rather than hearing water lapping the shores of San Francisco Bay (across the street from my house or the lagoon waters gently swirling (right behind my house), all I could hear was one of these hideous gas-powered contraptions as I was starting my day. It wasn't an issue then so much as I was working across the Bay. My former neighbor told me recently that the City of Alameda has now banned gas-powered lawn equipment.

I am now retired and live in the Mountain Meadows area of Ashland (Fair Oaks Avenue) and from Monday through Friday the sound of a leaf blower reverberates throughout the neighborhood. (There are different HOAs and each one employs their own gardening service.) It is maddening. Yes, I'm noise-sensitive, BUT STILL. . . .

In conclusion, I wholeheartedly support this phase-out and hope for its speedy passage.

12.) Jack O. via email: I'm in favor of banning all use of gas powered dust blowers(that's what they really are) immediately. They are a blight on civilization and anything they actually are good for can be accomplished with a rake or broom. Most of the lawn services that use them are extremely inconsiderate about their noise and government workers mostly use them to kill time and make it look like they're busy.

I've seen them used at SOU's Sustainability Ctr(the farm), the Buddhist temple, the food coop and everywhere else that people want immaculate looking cement and asphalt. All other gas powered engines can be justified so don't wait to debate the issue ad nauseum. The idea that yard maintenance can't be done without them is completely absurd as anyone over 50 could tell you as they remember when they didn't exist

13.) Conde C. via email: I write to support the proposal to phase out gas powered lawn equipment. This should also apply to tracts larger than one half acre. Electric powered equipment can be used on larger tracts also. Why exempt them?

14.) Jack R. via email: I live in Ashland at the north end of town and frequently walk to town and around the neighborhoods. Of course through the years the use of lawn maintenance equipment has vastly increased becoming sometimes almost oppressive. And personally I am speaking mostly about leaf blowers. The pollution effects are well known I think but I especially despise the noise. It's horrible and everywhere. Am listening to it now at apartments near my home. And often for what? To blow dust and debris into others' yards or into the street. I see someone using a rake and want to give them some kind of reward. And waiting until 2026 or 7 or (yikes!) especially 2030 seems useless. Other lawn equipment is important for pollution reasons but I don't think it is unreasonable to focus especially on leaf blowers as they are so obnoxious. Thanks for reading. Jack Richard

15.) Jason H. : by mail. See attached scan

Against:

1.) Marty C. via email Please add my comment

Please do not force a phase out, It will backfire and cause people to resist other climate measures.

Any phase out should start with the city parks and other properties to understand the feasibility before imposing this change on your residence.

2) Ken B. via email: I saw a post on Ashland News that discussed consideration of phasing out small engine equipment in Ashland and soliciting feedback.

I understand the appeal of such measures, however, do we have information on how much these machines contribute to pollution? The season for using such tools in Ashland is relatively short and it seems like small potatoes compared to other sources. While I have some electric equipment, the available options are not always sufficient (especially for chain saws and weed trimmers). Having adequate equipment is important to allow residents to do their part maintaining property, esp with regards to fire safety.

I wonder whether these goals could be reached with more directed measures/lower hanging fruit. For example, city departments could phase out gas-powered equipment as I suspect that represents the most year-round usage. In addition, incentive programs without a ban to replace gas-power with electric might serve as more of a carrot vs stick approach.

A total ban seems a bit ahead of its time, especially before our electric supply is produced with clean energy.

Thanks for your time and attention to this issue. Just offering my 2 cents.

3.) Mark B. via email: The city has more important issues at hand than someone using a gas-powered lawn equipment. My first comment would be discrimination against small property

owners. Since my lot is smaller than ½ acre, I don't have any rights to choose what equipment I want to use? Doesn't seem equitable and I will probably lawyer up if it comes down to lot size.

I would ask for actual data that shows that by me using a gas-powered lawn equipment how it is going to damage the atmosphere. If I read my numbers correctly, a passenger car emits 4.6 metric tons of CO₂ whereas a piece of lawn equipment emits 88 pounds. I work from home, drive less than 3,000 miles per year, walk to some areas (not really liking that due to cyclist not caring about pedestrians in crosswalks), not making up for past transgressions (a lot of complainers about GHG are from those who used to commute long distances in the Bay Area), and yet you all want me to change a piece of lawn equipment out that I use about 12 times a year?

Who is going to pay for it? My lawn mower cost almost \$1,600 (actual replacement cost \$1,599). My weed eater cost almost \$600 (actual replacement cost \$679). My leaf blower cost almost \$200 (actual replacement cost \$319). Is the city going to cut me a check for \$2,200+?

How about we start making it so that Amazon and other mail order deliveries can't take place in Ashland as they are huge GHG producers.

I will not comply with city or state governance on small gas-powered lawn and garden engines. Just state a point. If a said ordinance is passed, I will lawyer up, and will spend every penny I have to fight it.

4. Paul M. via email/attachment: **What's Wrong with the Ashland Climate and Environment Policy Advisory Committee's - Strategy to Phase-out Gas Powered Lawn and Garden Equipment -?**

It is fine to encourage the transition from gas-powered to electric/battery powered lawn, garden, and landscape maintenance equipment, but any attempt to enforce this via some phase-out strategy with fixed deadlines is unacceptable.

The National Emissions from Lawn and Garden Equipment paper, written by Jamie L. Banks and often cited in the proposal, relies on modeled Nonroad data from 2011 and on suspect telephone survey data: "For both data sources, the rates of replacement of older equipment by newer, cleaner equipment that meets the newer Phase 3 standards can only be approximated." So, the emission rates now, for VOC, NO_x, CO, PM 10, and PM 2.5, are probably much lower than those cited in the study. This, in addition to the fact that the results are from computer models, means they should be received with a healthy dose of skepticism. Furthermore, Banks asserts that: "By 2018, the annual tonnage of ozone precursors, VOCs and NO_x, emitted by GLGE is projected to decrease substantially from 2011, as more of the in-use fleet becomes represented by equipment built to meet EPA nonroad emission standards."

Reducing pollutant emissions is a good goal, especially for those who make a living using GLGE, that can be achieved via education and financial incentives. In addition to the recommendations made in the proposal, Ashland could certify commercial landscapers with a "Quiet and Clean" distinction that might give them a marketing

boost. Likewise, residents who convert to electric/battery powered lawn and garden maintenance tools could also get some kind of “Quiet and Clean” sign/symbol to display at their homes.

The graph (from the Banks report) displayed on page one of the proposal is deceptive in that the scales of the three columns (All Emissions, Nonroad Emissions, Nonroad Gasoline Emissions) shown for VOCs, NOx, CO, PM 10 and PM 2.5 are based on different domains. “All Emissions are defined as all emissions from stationary and mobile sources, **excluding biogenic and naturally occurring emissions.**” The percentage of Nonroad Emissions is a percentage of “All Emissions” and the percentage of Nonroad Gasoline Emissions is a percentage of Nonroad Emissions. All three percentages are shown against the same vertical axis as if they all applied to a common reference domain, which they do not. This serves to visually exaggerate the amount of Nonroad Emissions and Nonroad Gasoline Emissions. If they had been shown relevant to the source domain for “All Emissions” they would barely appear above the horizontal axis, if at all. The fact that biogenic and naturally occurring emissions are excluded from “All Emissions” makes it impossible to draw any meaningful conclusions from this data.

The proposal cites a 2023 study that estimates that GLGE produces 441,000 tons of carbon annually in Oregon. This report is based on a modeling exercise performed by a group of climate change activists, and it has not been peer reviewed, thus its conclusions need to be taken with a grain of salt.

The proposal mentions GLGE Health Impacts quoting from the above-mentioned Banks document. Again, we see the proposal relying on an outdated modeling study that confesses that “no studies of grounds maintenance workers were found”. I agree that it is advisable for commercial landscapers, who are exposed to the pollutants from gas-powered equipment every day, to consider using personal air and noise filters, but for the average homeowner with a much more limited exposure, the risks of adverse health impacts are vanishingly small. Has CEPAC or Ashland conducted any measurements of their own that demonstrate the “drit” of GLGE emissions from one residential lot to another, or from the property of a public agency (Ashland School District, City of Ashland, SOU) to the surrounding residential areas?

The proposal asserts that GLGE use by public institutions will have less impact on neighboring properties, but this has not been measured. Never mind though, these institutions are purported to be planning to phase out GLGE by 2030 without the city’s intervention. What evidence is there that the Ashland School District, City of Ashland, SOU, or any other public institution in Ashland has plans to phase out GLGE by 2030? And if they do have plans and have made that decision without threat or coercion from the city, why can’t we draw the same conclusions about the residents? Once they become better informed about the potential risks, they may decide to hire commercial landscapers that run “Quiet and Clean” operations and, especially with the incentives offered by the city in the proposal, they may also decide to phase out their use of GLGE.

The proposal includes a list of equipment that will not be subject to phase-out strategies that includes mostly 4-cycle engines, which according to the outdated Banks report, account for the lion's share of VOCs, NOx CO. So, the proposal does not even address the main contributors of GLME emissions.

It is important to include batteries in the consideration of the environmental costs of gas-powered versus electric/battery powered equipment. The rare earth minerals needed to produce the hundreds of millions of lithium batteries that would be required to replace all gas-powered lawn, garden and landscape maintenance equipment will come at a high environmental cost. And in places like the Democratic Republic of the Congo, from the bare hands of virtual slave laborers including women and children.

In summary, the strategy of enforcing a prohibition on the use of gas-powered lawn, garden, and landscape maintenance equipment is unwarranted. The goals of reducing pollutants and creating a healthier environment for those at high risk (commercial landscapers) can be achieved through education and incentives.

5.) Mike S. via email:

My name is Mike S. and I am a third-generation Ashland resident. I am writing in regards to the notice about the strategy to "phase out" gas-powered lawn equipment in the city of Ashland—as listed in the Ashland News. I understand that a meeting is scheduled for Wednesday, September 25th, at 5 pm. Due to previous commitments, I will be unable to attend. I am writing because I believe that my thirty-five years of experience in small lawn care machinery—which encompasses gas, battery, and electric machinery—allows me to provide a slightly different, yet critical, perspective in this matter. After considering the proposed strategy, I have a few concerns to address. First, I worry about the conflict of interest this proposal brings, as the City of Ashland is the sole provider of electricity, thereby limiting the citizens and forcing them to use one product.

As a long-Eme resident, I can attest that this is not the first Eme that the city has "strong-armed" any potential competition. When Dom Provost wanted to build a second golf course—creating potential new jobs and revenue streams for our citizens—the city provided resistance by making it nearly impossible to obtain street access or permits. It should be noted that the city owned Oak Knoll and had a very tangible conflict of interest.

Gordon Brown was another victim of the city's over-reach. He attempted to provide the city with additional emergency services, and was told that if he did not sell to the city, he would not be allowed access to Ashland's only airport—another city resource.

It is concerning to see that the city has a history of trying to force out merchants and other "perceived competition." It would appear that this new "phase out" of gas-powered lawn equipment is just another instance, however, this Eme it impacts far more individuals. People of Ashland have spent hundreds, if not thousands of dollars on gasoline-powered machinery already. Now, the city is trying to force them to buy new pieces of equipment with a known shorter life span at nearly twice the price. In an already delicate economy, this is unconscionable. Not to mention, this will also undoubtedly result in the loss of local jobs and could even prompt unforeseen lawsuits.

Many people are unaware that for the past several decades, Oregon has set the guidelines for purchasing small gasoline-powered lawn equipment using California's advanced C.A.R.B. (California Air Regulatory Board) standards. These standards are far more advanced over any state standards. These engines are extremely efficient and produce minimal emissions.

Currently, there are numerous problems with operations and repairs of battery or electric lawn equipment. With electric equipment, you must drag a heavy-duty electrical cord around while mowing or cutting. Most home extensions are not suitable or heavy enough to provide the proper power to the electric motor and will result in premature failure. These motors are double-insulated. They require two layers of non-insulation at any one point, so as not to shock the customer. In order to test the shock resistance of these units, they must be tested in a factory that can provide this high-voltage testing. Currently, there is no such facility in the state of Oregon. These units would need to be sent away or thrown out, creating additional costs for customers and higher levels of waste.

Likewise, battery-powered lawn equipment is powered by a battery that is made in China—just like many of the EVs on the market. The unscrupulous mining of Cobalt and Lithium, as well as the strip-mining procedures used by the Chinese government are just a few of the current issues with these machines. Repairs cannot take place locally, and this again, places an unnecessary burden on the everyday citizen.

Another issue to consider is the City of Ashland's Eered charges of electrical use. Not only do you pay more for electrical the more you use, but you also pay more per kilowatt as you use more. The grid was originally set up on a small family format. With a larger family, it would be impossible to get a livable power, water, or sewer bill due to the number of utilities required for just basic needs. This continues to be a hardship on larger families and making our communities less inclusive.

Trying to force citizens of Ashland to use electric water heaters, electric appliances, electric lawn equipment, and electric vehicles will create an unnecessary problem. The grid from all that additional electricity will get over-used and we will face bond issues for bigger electrical plants. Piling on top, the additional electrical requirements for up-and-coming Artificial Intelligence—which is estimated to require double the electrical power currently provided—our community will be facing some very serious issues.

I also worry that the households that currently utilize solar panels will find the added drain for these tools to be more than most panels can keep up with.

Ater much research, and with my many years of experience, I believe that this is not the right direction for our city. If this bill does pass, I would expect that the city would need to sell off their control of the electric utilities, so that any undue conflict could be resolved.

6.) From Tomas M. via email: I don't think electric powered tool are the way to go.. yet. I am a landscaper and electric tool have not been yet built to a heavy duty standard. I just purchased a \$600 backpack leaf blower from ace. The electric one doesn't get the job done when it comes to commercial use. Health wise, I read about people supposedly feeling the exposures to cobalt in electric cars

I don't

We are in a position to go in that direction Electric garden tool still not ass sturdy Please listen to the actual people who use, expends money and repairs yard equipment Please feel free to contact me if you have any questions

641-350-2236

Tomas

Strategy to Phase-out Gas-Powered Lawn and Garden Equipment (GLGE)

The strategy establishes a timeline to phase-out the use of gas-powered blowers, weed whackers, lawn mowers, hedge trimmers, and non-commercial chainsaw use. This questionnaire is intended to gather community input. Please consider sharing your ideas and perspectives about the strategy.

1. Do you think climate change has impacted or is impacting Ashland?

☒ YES

☐ NO

AND THIS WILL MAKE IT WORSE!

2. Do you support phasing-out GLGE? Rate on a scale of 0 to 5 with 0 being "strong opposition" and 5 being "strong support."

0

1

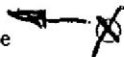
2

3

4

5

Oppose



Support

3. The above listed GLGE equipment could be "phased out" by 2030 and possibly as early as 2026 or 2027 on lots of a half-acre or smaller. Do these timelines provide enough time for residents, businesses and governments to transition from gas-powered to electric or battery powered equipment?

☐ YES

☒ NO

4. An incentive might be available to ease the transition between gas and electric/battery powered lawn and garden equipment. On a scale of 0 to 5, how important do you think an incentive is to the success of the phase-out? Rate using with 0 being "not at all" and 5 being "extremely important."

0

1

2

3

4

5

Not at all



Extremely Important

5. How would you best describe yourself?



Resident (homeowner/renter)

67 YEARS



Owner or employee of a lawn and garden maintenance firm

LANDSCAPE DESIGN - CONSTRUCTION



Local or state government representative



Other - please list

6. Do you own or use GLGE?

☒ YES

☐ NO

7. If yes, please list the equipment that you use and the estimated hours that you use it each year (use back of page if more space is needed).

*NOT IMPORTANT - STUPID QUESTION!
YOU NEED TO RESEARCH HOW/WHERE RAW MATERIALS*

8. Name (optional). If you'd like to receive updates about the phase-out strategy, please include your email address.

*YOU WILL HERE FROM ALL OF US, YOU WANT
VS TO WORK FOR YOU, BUT NOT LIVE TOO CLOSE \$,
NOT PAY VS MUCH. WE WILL FIGHT YOUR RACISM!
"WE WILL GO - I DID -
NATIONAL"
WITH THIS*

FOR BATTERIES ARE EXTRACTED & WHAT HAPPENS
TO THESE AREAS, WHERE DOES THE POWER
TO CHARGE THESE BATTERIES COME FROM?
HOW LONG DO THEY RUN? (30 MIN, 45 MIN, ?) -
BEFORE NEEDING ANOTHER CHARGE FROM
"THIS" SOURCE? LITHIUM, CADMIUM, LEAD,
COBALT, NICKEL!!!

PBS CLAIMS "ALL SAFE" IN THE STATES,
BUT WE ARE GLOBAL. THESE OTHER COUNTRIES
HAVE VERY-EXTREMELY 'LAX' CONTROLS ON
MINING (IF ANY) AND THEY ARE KNOWN
TO USE CHILD LABOR AS WELL. THEY
POISON WATER SUPPLIES, RUIN FERTILE LAND,
KILL MILLIONS OF ORGANISMS & CREATURES
AS WELL. SOUNDS GREAT ON THE SURFACE,
BUT WHEN THE ULTRA-RICH WORK THEIR
EXTREME MARKETING, IT IS IMPORTANT
TO STUDY & RESEARCH. THEY ONLY CARE
ABOUT MONEY, NOT OUR PLANET!
WHAT ABOUT LANDFILLS FULL OF MOWERS,
BLOWERS, CHAINSAWS, ETC. & FINALLY, THE
BATTERIES THEMSELVES!

I ALSO BELIEVE THIS TO BE CRITICALLY
RACIST! HOW MANY POOR LATINO'S ARE
YOU GOING TO PUT OUT OF BUSINESS? WILL
THEY RECEIVE A LIVING WAGE WORKING
FOR MORE WEALTHY WHITE BUSINESSES THAT
CAN NEGOTIATE THE ECONOMICS? SOLID GROUND
WILL HAVE A LARGE & UNDERPAID CREW!

I'M GOING TO ALERT THE MEDIA'S (SOCIAL
AS WELL) ABOUT ALL THIS & MORE!
(PARTICULARLY RACISM) IN ASHLAND!! SHAME
POORLY THOUGHT OUT ON ALL OF YOU.

Bryan Sohl

Chair, (CEPAC)

Ashland, Oregon

Phase-out-Gas-Powered Equipment

My name is Jason Holt, I am a graduate from SOU (2006) with a bachelors in Geography and a land use minor. I played Rugby those years and also coached the high school team. I started my business while attending college in order to schedule my work around my school schedule. God blessed me with the woman and home of my dreams in the Greenspring's. I have more respect than most for nature, biology and geography. I have contributed my services to this community since 2003. Reducing fire danger by removing fuel loads from homes, roofs and properties. I have kept irrigated lawns, trees and shrubbery alive and thriving all along. I have reduced the waste of water and maximized its use through drought years and none. I love the geography of our area and take pride in doing the best I can to protect Gods country. Socially, I am getting fed up with the way we are criticized for our way of life!

The use of my equipment has maximized efficiency and kept costs down for my clients in this community. The gas-powered equipment used in this field is reliable, much more Powerful than battery pack, and there for more efficient! Every business in this field, as well as myself should be given an honor for the services we provide for this community! If asked to do more with less, working with less efficiency, as you are proposing, the side effects will be a buildup of ladder fuels and increased fire danger.

The first question asked was, "Do you think climate change has impacted Ashland?". What has impacted the climate of Ashland is the filth, drugs, Feces, urine, crime and Homelessness! This town used to be safe, quant and beautiful. The time, energy, money and resources from GLGE would better benefit this community by addressing the drug and homelessness matters. The overall "Climate" of Ashland was far better before the homeless Crisis! Bear Creeks riparian areas are polluted with feces, needles, trash and God knows what else. I studied Bear Creek in college, if that waterway didn't have enough issues with nitrates, fertilizers and a lack of Beavers and pollution it is now a dump site all the way to Medford. Drug needles have been reported in Bear Creek and the Rogue River. And you want to talk about the "Climate"? Our parks are not safe for the children, elderly or any of us who used to frequent the beautiful parks of this town. Parking lots are now a peddler's market, where we are harassed daily for drug money. These people don't want food. Public and business' restrooms are locked up due to the vandalism, drugs and disrespect from this group. Super 8 was converted to a homeless encampment. The byproduct of this was APD had to use half of the laundry mat to add personnel to the area, Craving Cave had to close because people didn't feel safe in that part of town, and they lost customers.

I worked at Napa for a couple years and had to clean up feces, needles, and trash from the homeless population. I'm glad I don't work there anymore, but 2 years ago my 700-dollar blower

was stolen from the parking lot while I was around the corner picking up a pile of debris. The thief was caught on camera at the mini-mart next door carrying my blower. Cops were called and the thief was not caught or prosecuted. I am a contributing factor to this society who has to deal with theft, vandalism, trash and now the Ashland Climate Committee is after my livelihood?

Gas powered Weedeaters are the most efficient tool for controlling the grass. I often put 10-12 hours a day on those machines in the spring reducing fire danger before the 4th of July. Battery powered weedeaters cannot keep up with me! I have plenty of weedeating to be done if any of you want to try your hand with your battery powered equipment.

The saying I heard from the high school kids when I coached rugby holds true, "Ashland is 7 Sq. miles surrounded by reality". Limiting the process by which gas powered equipment for yard maintenance is used will not have a viable impact on the overall climate. This is a microcosm of regulation due to the worldwide use of fossil fuels. The result will be business' moving out of Ashland, leaves and debris will build up very quickly. This will cause an increase of ladder fuels which will make Ashland even more of a tinder box for fire danger!

To answer the third question and sixth questions, the timeline given is asked as if I will have no choice to do business in Ashland without conforming to your policies. I have been a contributing factor to this community for over 20 years without any issues, until now. I have found a use for battery powered equipment, It consists of drills, Sawzall's and skill saws (if the job is small enough for their use).

Will Ashland be able to provide enough power for the E.V.'s and landscapers? Ashland's power is subject to the snow and rain fall in the Greenspring's. The water from Hyatt lake fills Keene creek Reservoir, where it is then sent through the mountain to dump into Emigrant creek to produce the power you use. Can you assure me that there will be enough water through drought years to generate the power needed to charge batteries? And if one runs out of stored batter power and has no more batteries then what is your solution to that dilemma? Are gas and diesel vehicles going to be next on the list of "phasing out"? Are you going to be able to make a significant impact on the environment with all these regulations? Or do you agree with me that there are more important issues facing Ashland?

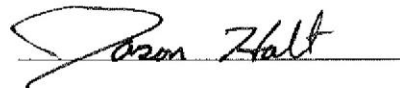
These regulations are a drop of water in the ocean. It would be impossible to clean up all the debris from the diverse flora of this beautiful community with a hair dryer or rakes alone. Is this a "feel good" set of regulations, or can you provide the public factual data on the impact of your policies?

Thank you for your time.

Jason Holt

14689 Highway 66

Ashland.

A handwritten signature in black ink that reads "Jason Holt". The signature is written in a cursive style with a large, sweeping initial 'J'.

Appendix B



CITY OF
BAINBRIDGE ISLAND

Climate Change Advisory
Committee Regular Meeting
May 15, 2024
5:30 PM
Council Conference Room
280 Madison Avenue N
+ Zoom Webinar

ORDINANCE 2024-

AN ORDINANCE of the City of Bainbridge Island, Washington, adding a new chapter 16.14 to the Bainbridge Island Municipal Code prohibiting the use of landscaping tools powered by internal combustion engines and regulating the use of electric-powered landscaping tools.

WHEREAS, use of small landscaping tools that are powered by internal combustion engines contributes to noise, toxic emissions, particulate matter, vibration, and greenhouse gases that negatively impact human health and the environment; and

WHEREAS, electric-powered alternatives for small landscaping tools are widely available in the market; and

WHEREAS, the Bainbridge Island City Council desires to limit the use of certain small landscaping tools that are powered by internal combustion engines in furtherance of the City's commitment to reducing greenhouse gases and providing a safe, healthy and sustainable environment.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BAINBRIDGE ISLAND, WASHINGTON, DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Small Landscaping Tools. A new chapter 16.14 is hereby added to the Bainbridge Island Municipal Code to read as follows:

SMALL LANDSCAPING TOOLS

16.14.010 Purpose.

16.14.020 Definitions.

16.14.030 Use of Small Landscaping Tools.

16.14.040 Exception for Emergency Responders.

16.14.050 Penalty.

16.14.010 Purpose.

The purpose of this chapter is to control dust and other airborne pollution, reduce health hazards, and minimize noise pollution resulting from the use of leaf blowers and other small landscaping tools that are powered by internal combustion engines.

16.14.020 Definitions.

As used in this chapter, the following terms have the meanings set forth below:

- A. “Hedge trimmer” means a powered gardening tool used for trimming and cutting back bushes, shrubs, and hedges.
- B. “Internal combustion engine” means an engine within which fuel (typically gasoline or diesel) is combined with an oxidizer and ignited, thereby producing hot gases that drive a piston or perform other work as they expand.
- C. “Lawn edger” means a powered cutting tool used to form distinct boundaries between a lawn, typically consisting of grass or other botanical ground cover, and another ground surface feature such as paved, concreted or asphalted area, or a granular material such as sand or uncovered soil.
- D. “Leaf blower” means a tool that propels air out of a nozzle to move debris, such as leaves or grass cuttings.
- E. “Non-riding lawn mower” means a tool that uses one or more revolving blades to cut grass or other landscape material to an even height and that is not designed to be ridden by the operator.
- F. “Small Landscaping Tools” means hedge trimmers, lawn edgers, leaf blowers, non-riding lawnmowers, and string trimmers.
- G. “String trimmer” means a tool that uses a rapidly spinning flexible monofilament line or plastic line to cut grass or other landscape material.

16.14.030 Use of Small Landscaping Tools.

- A. Use of the following small landscaping tools is prohibited in the City of Bainbridge Island:
 - 1. Hedge trimmers powered by internal combustion engines;
 - 2. Lawn edgers powered by internal combustion engines;
 - 3. Leaf blowers powered by internal combustion engines;
 - 4. Non-riding mowers powered by internal combustion engines that are rated at 25 horsepower or less; and
 - 5. String trimmers powered by internal combustion engines.
- B. The use of electric-powered small landscaping tools is permitted in residential zones subject to the requirements of this section, provided, that hours of

- operation are limited to 8:00 a.m. to 5:00 p.m. weekdays and Saturdays. Operation is prohibited on Sundays and on federal, state, and City holidays.
- C. The use of electric-powered small landscaping tools is permitted in nonresidential zones subject to the requirements of this section, provided, that hours of operation are limited to 8:00 a.m. to 6:00 p.m. Operation is prohibited on federal, state, and City holidays.
- D. Cuttings, refuse, and debris shall not be blown or deposited onto neighboring properties, into critical areas (such as streams, ravines, and wetlands), into storm facilities (such as gutters, catch basins, rain gardens and dispersion trenches), or into a street.
- E. After small landscaping tool use, all debris and waste materials shall be disposed of in yard waste receptacles (if available from the local solid waste hauler), at a transfer station (if yard waste is accepted for disposal separate from garbage), or retained on site for compost or other uses. Debris and waste materials shall not be disposed of in containers designated for trash or garbage.

16.14.040 Exception for Emergency Responders.

Notwithstanding any contrary provision of this chapter, small landscaping tools powered by internal combustion engines may be used by police, fire, and public works emergency responders for the purpose of responding to emergency situations, including but not limited to, the clearing of downed trees and brush in areas needing expedient clearing for the safety of the public.

16.14.050 Penalty.

Any person or firm violating any of the provisions of this chapter for the first time shall be issued a warning by the City. A second violation by the same person or firm shall be a Class 2 civil infraction and, upon a finding that the infraction has been committed, the violator shall be required to pay a monetary penalty in the amount of \$125.00. A third or subsequent violation shall be a Class 1 civil infraction and, upon a finding that the infraction has been committed, the violator shall be required to pay a monetary penalty in the amount of \$250.00 for each such violation.

16.14.070 Education and Outreach.

As necessary, the city manager, or their designee, and pursuant to BIMC 16.14, shall provide, or contract for the provision of, education and outreach activities to

inform residents, landscaping professionals and other interested individuals about the requirements of this chapter. Education and outreach will be designed to promote natural yard care practices, effectively convey the policies underlying this chapter, describe the actions necessary to gain compliance with its provisions, and minimize the need for formal enforcement action. The city will emphasize education and outreach rather than enforcement to achieve compliance with the requirements of this chapter.

Section 2. Severability. Should any section, paragraph, sentence, clause, or phrase of this ordinance, or its application to any person or circumstance, be declared unconstitutional or otherwise invalid for any reason, or should any portion of this ordinance be preempted by state or federal law or regulation, such decision or preemption shall not affect the validity of the remaining portions of this ordinance or its application to other persons or circumstances.

Section 3. Effective Date. This ordinance shall take effect and be in full force July 1, 2026, which is more than five (5) days from its passage and publication as required by law.

PASSED BY THE CITY COUNCIL this ____ day of _____, 2024.

APPROVED BY THE MAYOR this ____ day of _____, 2024.

Joe Deets, Mayor

ATTEST/AUTHENTICATED:

Christine Brown, MMC, City Clerk

FILED WITH THE CITY CLERK:
PASSED BY THE CITY COUNCIL:
PUBLISHED:
EFFECTIVE DATE:
ORDINANCE NUMBER:

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Health Hazards from Gasoline-Powered Lawn and Garden Equipment

- The California Air Resources Board (CARB) staff conducted a study, and preliminary findings indicate elevated exposures to criteria and toxic air pollutants for operators of gasoline powered devices compared to electric devices and background levels. The increased exposures to benzene and 1,3-butadiene from gasoline-powered equipment could lead to possible additional cancers per million workers exposed. They concluded that moving towards zero-emission technologies may help reduce operators' exposure and associated health risks.¹
- The EPA concluded that landscaping contributes 5 to 10% of all toxic air pollution. These emissions have been designated as "probable carcinogens."²
- A report in the Journal of the American College of Cardiology stated that epidemiological studies have found that environmental noise is associated with an increased incidence of arterial hypertension, myocardial infarction, heart failure, and stroke.²
- The Icahn School of Medicine at Mount Sinai acknowledges children are highly susceptible to these hazards because they breathe more air per pound of body weight per day than adults and thus inhale more of any pollutants thrown into the air by this equipment. Children's vulnerability is further magnified by the fact that their lungs, ears, eyes, and other organ systems are still developing, making them inherently more sensitive to environmental hazards than the organs of adults.³
- Gasoline-powered lawn equipment is inefficient. The California Air Resources Board (CARB) estimates that the operation of a gasoline leaf blower for one hour releases emissions equivalent to driving a car for 15 hours or 1100 miles. The air released from gasoline leaf blowers can reach speeds of 200 mph, sending dust, pollen, pesticides, mold, and heavy metals in soil into the air where they can be breathed in. Lastly, exposure to fine particulates like those emitted from GLBs was associated with an increase in COVID-related deaths. For these reasons, the American Lung

¹ Research Division. (2018). Operator Exposure to Emissions from Lawn and Garden Equipment.

https://ww2.arb.ca.gov/sites/default/files/2023-08/Exposure%20Study%20Summary%2010-12-2018_0.pdf ² FACT SHEET: Final rule to reduce toxic air emissions | US EPA. (2024, January 2). US EPA.

<https://www.epa.gov/stationary-engines/fact-sheet-final-rule-reduce-toxic-air-emissions>

² Münzel, T., Schmidt, F. P., Steven, S., Herzog, J., Daiber, A., & Sørensen, M. (2018). Environmental noise and the cardiovascular system. *Journal of the American College of Cardiology*, 71(6), 688–697.

<https://doi.org/10.1016/j.jacc.2017.12.015>

³ Sinaixposomics. (2023, October 17). Gas Leaf Blowers are Health Hazards. Institute for Climate Change, Environmental Health, and Exposomics. <https://mountsinaixposomics.org/gas-leaf-blowers-are-healthhazards/>

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Association recommends using hand-powered or electric lawn care equipment instead of gas-powered.⁴

Bainbridge Island Lawn Care Rebate Program Proposal

Last Updated: May 7, 2024

Purpose

The City Council will be considering an electric landscaping tool ordinance. The potential ordinance would prohibit gas engines for leaf blowers, hedge trimmers, lawn edgers, string trimmers, and non-riding mowers with less than 25 horsepower. Equity concerns have been raised at the possibility of this ordinance. Sta are proposing the following equity-driven Lawn Care Rebate Program.

Program Funding Request

Staff request \$50,000 be allocated to rebates to eligible residents. Sta also requests \$2,000 for program outreach. This \$52,000 would come from funding allocated to the Climate Action Plan. This does not include any funding dedicated to staff time.

Process

1. A resident purchases an eligible tool from participating retailers.
2. Within 30 calendar days from the date of purchase, the resident takes their old lawnmower to Bainbridge Disposal. They must ensure all fluids have been removed from the machine to be accepted. Bainbridge Disposal has offered to for-go the resident drop-off cost for program participants.
3. A resident would then complete the online rebate application and submit it to the City. The form would require the submittal of a receipt or invoice for the lawn care equipment, proof of income eligibility, and a copy of a drop-o form designed by the City and handed out by Bainbridge Disposal.
4. Sta review and either approve or deny the application. Once approved, a check would either be mailed to the resident, or they can pick up at City Hall.

Income Qualification

Income qualification will be based on [US Department of Housing and Urban Development \(HUD\) Income Limits](#) for the Bremerton-Silverdale metropolitan statistical area (MSA). The income thresholds for income-qualified incentives are 80% area median income (AMI) and below. Income thresholds will be adjusted for household size and will follow HUD 2023 Income Limits methodology. Income thresholds are shown in the table below.

⁴ Sinaixposomics. (2023, October 17). Gas Leaf Blowers are Health Hazards. Institute for Climate Change, Environmental Health, and Exposomics. <https://mountsinaixposomics.org/gas-leaf-blowers-are-healthhazards/>

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Bainbridge Island Lawn Care Rebate Program Income Limits								
Household Size	1	2	3	4	5	6	7	8
80% AMI	\$61,000.00	\$69,700.00	\$78,400.00	\$87,100.00	\$94,100.00	\$101,050.00	\$108,050.00	\$115,000.00

According to Census data, the average family size is 2.84 on Bainbridge Island. Rounding up to three and based on these income qualifications, this program could assist up to 1,500 families. However, not all families live on a parcel of land that requires them to maintain their lawn, nor do all families own gas-powered lawn care equipment, thus this number is a conservative estimate.

Rebate Options

Staff researched West Coast governments that currently implement a lawn care rebate program. Based on the review, staff recommend modeling Bainbridge Island's program off of the San Joaquin Valley Air Pollution Control District's *Clean Green Yard Machines* program.

The program would offer the following rebates:

- Up to \$100 for a purchase of \$200 or less¹
- \$150 for a purchase of \$201-\$350
- \$250 for a purchase of \$351+

If all 1,500 families were to participate in this program, the estimated rebate amount that would be distributed would range from \$150,000² to \$375,000,³ however, staff expect this to be a conservative estimate based on factors mentioned in the previous section.

Per the funding request, the budget would allow up the following:

Voucher Amount	Maximum Number of Vouchers Available
Up to \$100	500
\$150	333
\$250	200

Program and Eligibility Requirements

The City would implement the following program and eligibility requirements:

- Submittal of an application does not guarantee a rebate. Program eligibility is determined at the sole discretion of the City. The participant will be notified if their application is deemed ineligible.
- Applicant must be a resident at the address identified in the application.
- Limit one (1) rebate per address for every two (2) consecutive years.
- Combo kit with one power unit and multiple attachments is considered one equipment type.
- For bundle purchases of two or more pieces of eligible equipment, separate applications must be submitted for each piece of equipment. Equipment purchased as part of a bundle are eligible for separate rebates only if each piece of equipment has a separate power unit. For the first piece of eligible equipment, the rebate amount is based on the current individual retail price of that specific

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

equipment. The rebates for subsequent eligible pieces of equipment in the bundle with a separate power unit are based on the remaining balance of the purchase price of the bundle, less the current individual retail price of the first piece of equipment for which the rebate was applied.

- Applicant must submit a rebate application within three (3) months of the purchase date of the new equipment.

¹ Applicant will be responsible for a minimum of 50% of the purchase price for equipment priced \$200 or less.

² 100% participation on the \$100 rebate

³ 100% participation on the \$250 rebate

- The new electric equipment must be purchased with a power unit and from a manufacturer authorized retailer or dealer.
- Applicant must turn in a fully functional old gas- or diesel-powered lawn care equipment to Bainbridge Disposal for permanent recycling.
- Applicant must maintain ownership of the new lawn care equipment for a minimum of two (2) consecutive years following the purchase date.
- New equipment must:
 - Be new, not used, or previously owned
 - Be electric (corded or battery-powered)
 - For mowers, be push or self-propelled under 25 horsepower (or equivalent) for residential use
 - Have a minimum one-(1) year manufacturer warranty □ Lawnmowers that are not eligible:
 - Reel mowers
 - Riding lawn mowers
 - Tractors used to pull mowing equipment
 - Tow-behind mowers
- The rebate period would begin upon passage of the ordinance and end when the mandate for electric lawn care equipment begins.

Appendix C

July 2017

GAS VS BATTERY POWERED MAINTENANCE TOOLS ON THE UNIVERSITY OF ARKANSAS CAMPUS



UNIVERSITY OF
ARKANSAS
Office for Sustainability

Fischer Jones and Eric Boles

UNIVERSITY OF ARKANSAS Office for Sustainability

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Purpose

The University of Arkansas (UA) has made a commitment to becoming carbon neutral by 2040. To meet this goal, the UA is systematically identifying opportunities to cost effectively reduce scope 1, 2, and 3 emissions. This doesn't mean that changing the way things are done is the purpose, it's to determine if there's a better method available. After reviewing the current equipment that are grounds crew utilize, we've determined that they're not only more expensive and have higher emissions but they are bad for the health of students, faculty, and staff on campus. The Office for Sustainability has done a review of the current 2-stroke engines used by our grounds crew, against battery powered alternatives.

Comparison

The Office for Sustainability compared the current model of leaf blower (Stihl 450 BR), as well as the current trimmer (Stihl 111 FSA R). For the battery powered grounds equipment we chose a Stihl BGA 85, and HUSQVARNA 436LiB battery powered leaf blowers, as for the trimmers we used the Stihl FSA 85 and HUSQVARNA 536LiLx (HUSQVARNA, STIHLUSA). The Stihl equipment is powered by an AP 300 Stihl Lithium-Ion Battery, which maintains a varying charge time depending on which equipment it is used with. The comparison is primarily to determine the capital, environmental, and societal benefits to our campus. To better find this we compared the two energy sources for each category using carbon emissions (equivalents), monetary value, and energy consumption. At the time of comparison, the 2stroke Engine grounds equipment used an Ethanol blend (E10) that is mixed into the fuel, which is the source of its primary pollutants.

Trimmers

Stihl FSA 111 R

*Stihl FSA 90 w/
AP300 Battery*

Husqvarna 536LiLx

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

<i>Power source</i>	Gas	Battery	Battery
<i>Service Life</i>	5	5	5
<i>Annual Cost</i>	\$300	\$129	\$133
<i>Annual Carbon</i>	642 Lbs.	242 Lbs.	220 Lbs.

Leaf Blowers

	<i>Stihl BR 450</i>	<i>Stihl BGA 100 w/ AP300 Battery</i>	<i>Husqvarna 436LiB w/ BLi150x</i>
<i>Power source</i>	Gas	Battery	Battery
<i>Service Life</i>	5	5	5
<i>Annual Cost</i>	\$329	\$139	\$120
<i>Annual Carbon</i>	641 Lbs.	176 Lbs.	176 Lbs.

Information pulled from Tables 2 & 3

Trimmers

During analysis of the trimmers, there was an assumed 5-year service life along with using the current Arkansas averages for gas prices and energy. Using the June 2017 regional gas price we determined the amount of money it takes to power a 2-stroke Trimmer over its life against a cleaner battery powered version. In Table 1 you will see that the amount of money it takes to operate the fuel powered trimmer, as well as the CO₂ emission far exceed that of the Battery powered version. As of 6/20/2017 the current rates for fuel were at \$2.04, and the current rate for energy consumption is \$0.09 per kilo-watt hour (Administration, U. E. 2017). Which was used to help determine the reasoning behind why the 2-stroke engine emits more carbon then the battery powered version. Due to the E10 blend associated with operating the trimmer, and there being little to no regulations on their exhaust, the blend emits very dense emissions when compared with automobile exhaust. This E10 blend can be up to 200 times

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

more polluting than the emissions of a car, and is therefore 200 times worse for the staff who breathe it. To ensure the accuracy of our calculations we used the hours, and locations of the grounds crew throughout campus to see if the usage of these machines were being used at times that would increase the maximum amount of people exposed. As for the battery powered versions of the trimmers, they don't directly emit any carbon however through the charging of its battery the power plant will emit carbon instead. To determine the proper amount of carbon emitted we used a study conducted by Environmental Protection Agency that covered the National Lawn and Garden Equipment emissions (Jamie L. Banks, P.M.). To be accurate we calculated the amount of emissions coming from the UA into the environment for each battery charge using the regions current emissions rate generated by power plants.

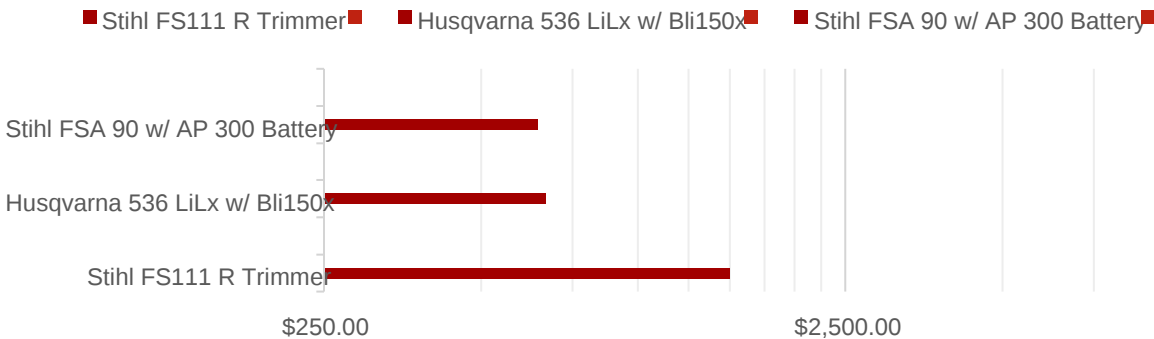
To further the investigation into the choice of battery over fuel powered trimmers, the need of knowing whether the battery powered trimmers can be sufficient enough to even pay themselves off. To figure this out a Return on Investment was calculated for each battery trimmer in relation to the Stihl trimmer currently being used. For the Stihl battery trimmer, it was found that the savings generated by switching to the battery powered version will completely cover the entire capital cost in 2.7 years after purchase. As for the HUSQVARNA battery trimmers ROI, it was found to be 2.4 years after the initial purchase. The capital benefits of switching to battery powered trimmers far outweighs the usage of the fuel powered versions, and will eventually save the university enough to replace the battery powered versions at their earliest expected end of use.

Table 2: Comparison of trimmer profiles and performance (5-year service life).

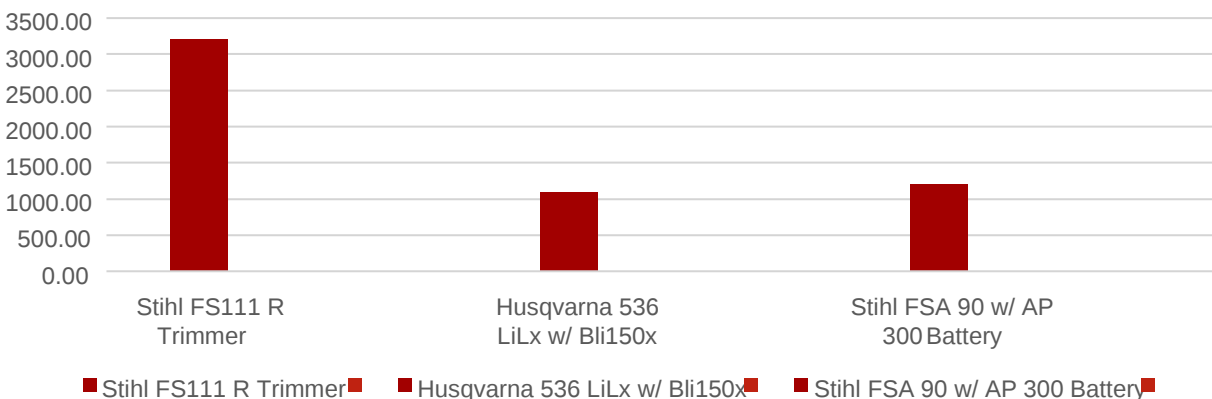
Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

<i>Model</i>	<i>Stihl FSA 111 R</i>	<i>Stihl FSA 90 w/ AP300 Battery</i>	<i>Husqvarna 536 LiLx</i>
<i>Power source</i>	Gas	Battery	Battery
<i>Estimated life</i>	5	5	5
<i>Capital cost</i>	\$380	\$200	\$300
<i>O + M cost(5yr)</i>	\$1,122	\$343	\$366
<i>Overall cost</i>	\$1,502	\$573	\$666
<i>Cost per year</i>	\$300	\$129	\$133
<i>R.O.I.</i>	-	2.7	2.4
<i>Weight Carbon emissions</i>	11 Lbs.	10.4 Lbs.	10.7 Lbs.
	3210 Lbs.	1208 Lbs.	1097 Lbs.

Trimmer Expenses Comparison



Trimmer CO2 Emissions



Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Trimmer Profiles



Stihl FSA 90 w/ AP 300 Battery

- Runs for 35-45 minutes with battery at max
- Battery Charges in 25 minutes
- Less expensive than Husqvarna model, yet provides more power and versatility.
- Higher emission rate than Husqvarna 536



STIHL FS 111 R

- Fuel operated, longer and stronger run time
- Exhaust emissions are many times more harmful to health than a normal car
- Currently used model; highly rated
- With changing fuel costs the potential operating costs could skyrocket



HUSQVARNA 536 LiLx w/ Bli150x

- Runs for 25 minutes per charge
- Significantly cheaper than current model
- Lower CO₂ than the STIHL FSA 90
- Shorter battery life, more inconvenient

Leaf Blowers

As for the comparison of battery-powered leaf blowers to their fuel counterparts, we analyzed the current model against one from the same manufacturer. The results of the comparisons can be found in Table II seen below. If you look at the amount of gasoline it takes to fuel the leaf blower over a five-year period, letting you see how quickly the cost of refueling these can be. The amount of carbon that is emitted from the 2-stroke leaf blower is nearly double that of the carbon emitted from the charging of the battery. As for the decibels, you can see that the combustion engine makes more noise, however to make up for the loud noise it has an 80mph advantage on the battery powered models. In relation to the capital costs differences you can see where the most cost-effective model can be found. The calculations for my battery powered example include both the prices of a charger and one battery, even if you added 3 more batteries you'd still be saving money in the long run. Similar to the fuel trimmers emissions output, it has very deadly chemicals that are exhausted from the leaf blower engines. This is due to the leaf blower having both a denser and higher rate of emission. Due to the inefficiency of the 2-stroke engine you can easily see that electric Leaf blower may in fact be weaker than the 2-stroke, however it is quieter, cost-efficient, and helps combat noise pollution on campus.

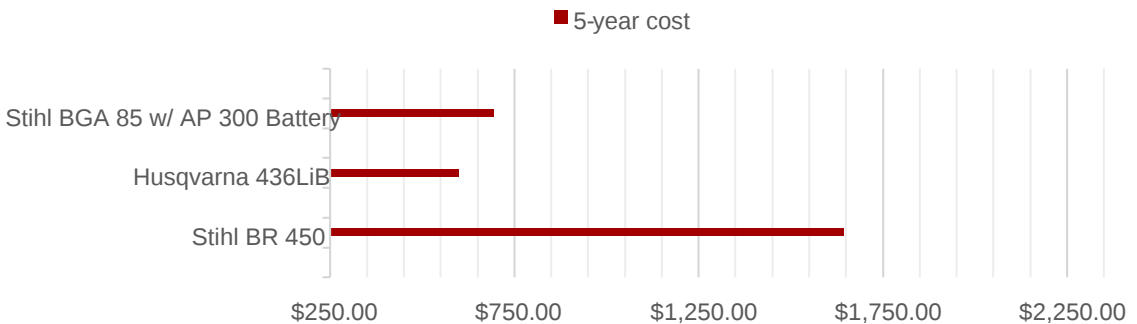
To better determine if the switch to the battery powered leaf blowers was cost effective there was a Return on Investment calculated for the STIHL and HUSQVARNA models alike. The Stihl model was found to have generated enough in savings to pay off the initial capital cost in 4.7 years, which is before the earliest expected end of use. What the HUSQVARNA model lacked in power it made up for in cost effectiveness, with an ROI of 3.26 years it was significantly cheaper than the fuel powered versions. Its ROI is nearly enough to replace the leaf blower itself after it's shortest end of use.

Table 3: Comparison of leaf blower profiles and performance (5-year service life).

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

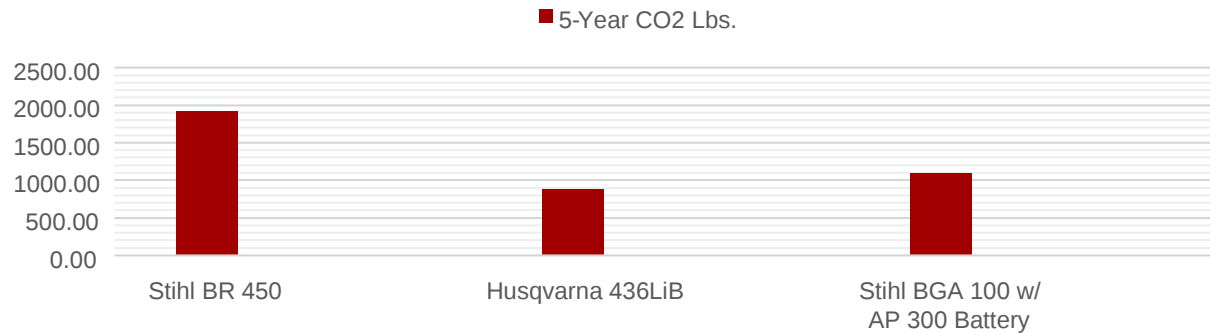
<i>Model</i>	<i>Stihl BR 450</i>	<i>Stihl BGA 100 w/ AP300 Battery</i>	<i>Husqvarna 436LiB w/ BLi150x</i>
<i>Power source</i>	Gas	Battery	Battery
<i>Estimated life</i>	5 yrs.	5 yrs.	5 yrs.
<i>Capital cost</i>	\$450	\$350	\$250
<i>O + M(5yrs)</i>	\$1,195	\$343	\$349
<i>Overall cost</i>	\$1,645	\$693	\$599
<i>Decibels</i>	\$329	\$139	\$120
<i>Air Velocity</i>	77	66	81
<i>Weight Carbon emissions</i>	184 mph	104 mph	105 mph
	23.4 Lbs.	10.8 Lbs.	8.3 Lbs.
	1926 Lbs.	1098 Lbs.	878 Lbs.

Leaf Blower Expenses Comparison



Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Leaf Blower CO2 Emissions



Leaf Blower Profiles



STIHL BGA 100 w/ AP 300 Battery

- Less noise than alternatives
- Lower price but more emissions than alternative
- 35 minutes of run time at max output



STIHL BR 450

- Current model for the UA
- Uses a 2-stroke fuel engine
- Stronger and louder than the battery powered alternatives
- Very heavy model at 23.4 Lbs.

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024



HUSQVARNA 436LiB w/BLi150x

- Lowest amount of CO₂ emissions
- Significantly less battery life than the BGA 100, at 24 minutes run time
- Lightest version of the leaf blower choices

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Appendix D

Program Guidance Document

Posted September 30, 2024



Electric Leaf Blower Rebate

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024



Table of Contents

INTRODUCTION19

APPLICANT ELIGIBILITY20

EQUIPMENT ELIGIBILITY21

APPLICATION PROCESS.....22

REBATE AMOUNTS.....23

REQUIRED DOCUMENTS:.....23

TERMS AND CONDITIONS.....24

Introduction

The Office of Energy Resources (OER) is incentivizing Rhode Island landscape businesses to transition to electric leaf blower equipment statewide.

The electric leaf blower rebate program aims to encourage landscaping businesses to use electric leaf blower equipment to service Rhode Islanders across the state. By offering rebates tailored to electric leaf blower equipment, the program seeks to boost the adoption of electric equipment, reduce air pollutants from the landscaping sector, and foster environmental sustainability in alignment with the [Act on Climate](#).

OER is the lead state agency for energy policy and programs with a mission to lead the state toward a clean, affordable, reliable, and equitable energy future. OER develops policies and programs that respond to the state's evolving energy needs while advancing environmental sustainability, energy security, and a vibrant clean energy economy. OER is committed to working with public- and private-sector stakeholders to ensure that all Rhode Islanders have access to cost-effective, resilient, and sustainable energy solutions.

Incentivizing the adoption of electric leaf blowers plays a vital role in Rhode Island's efforts to combat climate change and meet the greenhouse gas (GHG) emissions reduction targets outlined in the [2021 Act on Climate](#). Traditional 2-stroke gas and diesel engines typically found in leaf blowers are known to be very inefficient and emit a large variety of air pollutants. These pollutants include nitrogen oxides, particulate matter, carbon dioxide, unburnt hydrocarbons, and other pollutants. Studies have found that operating a gas-powered commercial leaf blower for one hour emits the same amount of smog-producing pollutants as driving a new light-duty passenger car about 1100 miles – that's the same distance as driving from Providence to St. Louis, Missouri, a 17-hour ride⁵.

The electric leaf blower rebate offers numerous benefits for businesses, residents, and the environment alike. These benefits include:

- **Cost Savings:** Eligible businesses can receive \$1,000.00 or 50% (whichever is less) of the cost of an electric leaf blower and related batteries, with a limit of 2 rebates total. Additionally, eligible businesses located in municipalities with the highest asthma rates can receive an additional \$250.00.

⁵ <https://ww2.arb.ca.gov/resources/fact-sheets/sore-small-engine-fact-sheet>

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

- **Noise Pollution:** Electric leaf blowers are quieter than traditional combustion engine leaf blowers, and therefore create less noise pollution.
- **Health Impact:** Switching to electric leaf blowers helps reduce air pollutants that can lead to numerous adverse health effects like asthma, cardiovascular diseases, and other respiratory diseases.
- **Environmental Impact:** Traditional leaf blowers emit a large variety of air pollutants including nitrogen oxides, particulate matter, carbon dioxide, and unburnt hydrocarbons that contribute to climate change and smog.

Rebates will be made on a first-come, first-served basis, based on adherence to application requirements and contingent on funding availability. OER reserves the right to extend, modify, or terminate this project based on funding availability and/or other factors. This is a reimbursement program, requiring applicants to cover expenses upfront and submit proof of payment for reimbursement.

For detailed information on incentives, eligibility criteria, and application instructions, please refer to this Program Guidance Document. The document may be periodically updated to clarify program requirements and improve effectiveness. Updates will be posted on the program [website at XXXXX.ri.gov](#).

Applicant Eligibility

Applicants must meet the following requirements to be eligible to receive a rebate under the Electric Leaf Blower Rebate Program.

- |
State

 - Applicants must be at least 18 years of age.
 - Only professional Rhode Island landscaping businesses are eligible.
 - Eligible businesses must be registered with the Rhode Island Secretary of
 - There is a limit of two rebates per eligible entity over the program's lifetime.
 - Qualified businesses may be eligible for an additional \$250.00 if located in a municipality with the highest rates of asthma-related emergency department visits in the state, as defined by the Rhode Island Department of Health⁶.

⁶ Municipalities with the highest asthma rates in the state are determined by RIDOH data on Rhode Island Cities/Towns by Rate of asthma-Related Emergency Department Visits, 2022.

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

- Central Falls
- Pawtucket
- Providence
- Westerly
- Woonsocket
- Applicants must pledge to use the equipment for which they receive a rebate primarily within _____ Rhode Island [for commercial purposes.](#)
- Applicants must pledge to maintain ownership and operation of the leaf blower for at least 3 years after purchase.
- Residents, non-profit organizations, and government entities are not eligible for rebates under this program.

Equipment Eligibility

To qualify for a rebate under the Electric Leaf Blower Rebate Program, applicants must purchase leaf blowers that meet the following eligibility requirements:

1. Only electric, battery-powered leaf blowers are eligible.
2. Handheld and Backpack leaf blowers are eligible.
3. Batteries purchased for the intended use of powering the leaf blower are eligible to count towards total costs.
 - Limit of 2 batteries per leaf blower.
4. Leaf blowers must be **purchased new** from a physical retail store located in RI, either online or in-person. Leaf blowers purchased from private sellers are not eligible.
 - Online purchases shall only be considered valid if they are bought directly from the

website of a retail store located physically in RI.
5. Lawn mowers, string trimmers, and any other landscape equipment or accessories that are not leaf blowers are **not eligible** for rebates.

Leaf blowers must be purchased on or after the program launch date, Month XX, 2024. *Rebates are not retroactive to past purchases.*

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Application Process

Please follow the guidelines below to apply for the electric leaf blower rebate program. Additional information or documents may be necessary to complete the application on a case-by-case basis.

1. Applicants must purchase an eligible electric leaf blower **before** applying for the electric leaf blower rebate program.
2. Applicants must apply for the rebate **within 120 days (4 months)** of the date listed on the purchase sales receipt and prior to rebate fund exhaustion or program termination.
3. Applicants must submit a photo or scan of the sales receipt that includes the purchase date and purchase price of the leaf blower.
4. Signing applicants must provide proof of age (valid driver's license or valid state-issued ID).
5. Applicant must provide proof of business license or registration with the Rhode Island Secretary of State.

- Businesses must be in good standing with the Rhode Island Secretary of State.

6. Applicants must provide the leaf blower's serial number, manufacturer, and model.
7. Applicants must pledge to maintain ownership and operation of the leaf blower for at least 3 years after purchase.
8. Applicants must pledge to use the equipment primarily within Rhode Island for commercial purposes.
9. Applicants must cover any additional costs of the leaf blower that exceed the awarded rebate amount.

It is the applicant's responsibility to check all program-related emails and the program website for status updates and requests for additional information or documents required to complete the application.

If approved, OER will award the appropriate rebate amount directly to the applicant in a single payment, by check, within four to six (4-6) weeks from the date of final approval. *Processing times may vary.*

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Rebate Amounts

The rebate amounts for the electric leaf blower rebate program are based on percentages of eligible costs, up to a maximum amount. Please note that the electric leaf blower rebate program will award the recipient whichever amount is less.

Standard Rebate:

Save \$1,000.00 or 50% (whichever is less) of the purchase price of an electric leaf blower and related batteries. Limit of 2 related batteries per leaf blower. Limit of 2 rebates per applicant.

High Asthma Rate Increased Rebate:

Save up to an additional \$250.00 of the purchase price of an electric leaf blower and related batteries. Limited to qualified businesses that are located in the following municipalities with the highest rates of asthma-related emergency department visits⁷:

- Central Falls
- Pawtucket
- Providence
- Westerly
- Woonsocket

Applicants must contribute at least 10% of total cost of equipment.

Required Documents:

Applicants must submit all the documents below to be eligible to receive a rebate from the electric leaf blower rebate program.

- Rebate Application.
- Valid Driver's License, or State Issued ID.
- Proof of Business registration through the Rhode Island Secretary of State.
- Business must be in good standing with the Rhode Island Secretary of State.
- Photo of purchased electric leaf blower.

⁷ Municipalities with the highest asthma rates in the state are determined by RIDOH data on Rhode Island Cities/Towns by Rate of asthma-Related Emergency Department Visits, 2022.

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

- Electric leaf blower sales receipt that includes the purchase date and purchase price.
- Provide sales receipt that includes the purchase date and purchase price for **all** related batteries, if applicable.
- Copy of the manufacturer's or retail store document (or specification sheet) that includes the electric leaf blower's serial number, make and model.
- A completed and signed W-9 Form *(attached to the application)*.

Items can be uploaded as photos, saved screenshots, or PDFs.

Terms and Conditions

As a condition for receiving a leaf blower rebate, you (the applicant/purchaser) must comply with the requirements below. Eligible applicants must meet requirements that include the following:

Rebate Amounts:

Standard Rebate:

Save \$1,000.00 or 50% (whichever is less) of the purchase price of an electric leaf blower and related batteries. Limit of 2 related batteries per leaf blower. Limit of 2 rebates per applicant.

High Asthma Rate Increased Rebate:

Save an additional \$250.00 of the purchase price of an electric leaf blower and related batteries. Limited to qualified businesses that are located in these municipalities with the highest rates of asthma-related emergency department visits⁸:

- Central Falls
- Pawtucket
- Providence
- Westerly
- Woonsocket

Applicants must contribute at least 10% of total cost of equipment.

⁸ Municipalities with the highest asthma rates in the state are determined by RIDOH data on Rhode Island Cities/Towns by Rate of asthma-Related Emergency Department Visits, 2022.

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Applicant Requirements:

Applicants must meet the following requirements to be eligible to receive a rebate under the Electric Leaf Blower Rebate Program.

- Applicants must be at least 18 years of age.
- Only professional Rhode Island landscaping or lawn care businesses are eligible.
- Eligible businesses must be registered and in good standing with the Rhode Island Secretary of State.
- There is a limit of two rebates per eligible entity over the program's lifetime.
- Qualified businesses may be eligible for an additional \$250.00 if located in the following municipalities with the highest rates of asthma-related emergency department visits, as reported by the Rhode Island Department of Health⁹:
 - Central Falls
 - Pawtucket
 - Providence
 - Westerly
 - Woonsocket
- Applicant must contribute at least 10% of the total cost of equipment.
- Applicants must commit to using the equipment for which they receive a rebate primarily within

Rhode Island for commercial purposes.

- Applicants must provide all required documentation found in the “Required Documents” section above, including sales receipts, proof of Rhode Island residency, proof of age, and any additional documentation requested by the program administrators.
- Applicants must apply for the rebate **within 120 days (4 months)** of the date listed on the purchase sales receipt and prior to rebate fund exhaustion or program termination.
- Applicants must maintain ownership and operation of the electric leaf blower for at least 3 years after purchase.
- Purchase date must be on or after program launch date, **Month XX, 2024**. *Rebates are not retroactive to past purchases.*
- Residents, non-profit organizations, and government entities are not eligible for rebates under this program.

⁹ Municipalities with the highest asthma rates in the state are determined by RIDOH data on Rhode Island Cities/Towns by Rate of asthma-Related Emergency Department Visits, 2022.

Recommendation to Phase-out Selected Gas-Powered Lawn and Garden Equipment
CEPAC Small Engines Subgroup
12/8/2024

Equipment Requirements:

- Handheld and backpack leaf blowers are eligible.
- Only electric, battery-powered leaf blowers are eligible.
- Batteries purchased for the intended use of powering the leaf blower are eligible to count towards total costs.
- Limit of 2 batteries per leaf blower.
- Leaf blowers must be purchased new from a physical retail store located in RI, either online or in-person. Leaf blowers purchased from private sellers are not eligible.
- Online purchases shall only be considered valid if they are bought directly from the website of a retail store located physically in RI.
- Lawn mowers, string trimmers, and any other landscape equipment or accessories that are not leaf blowers are **not eligible** for rebates.

Additional Information:

- Rebates will be issued on a first-come, first-served basis, pending available funds. • *This is a reimbursement program. Applicants must cover expenses upfront and provide proof of payment for reimbursement.*
- Limit of two rebates per eligible entity – program lifetime.
- Applicants are responsible for checking all leaf blower related emails and program website for status updates and requests for additional information or documents required to complete the application.
- Applicants must contribute at least 10% of total cost of equipment.
- Rebate recipients independently select and purchase their own equipment and assume all liability.

The OER is not liable for any damages or costs associated with the purchase, maintenance, or use of the electric leaf blowers or related batteries.

The OER reserves the right to modify or terminate this rebate program at any time. Funding is limited.