

Ashland Climate and Environment Policy Advisory Committee

- Strategy to Phase-out Gas Powered Lawn and Garden Equipment -

July 19, 2024 (updated 8/16/24)

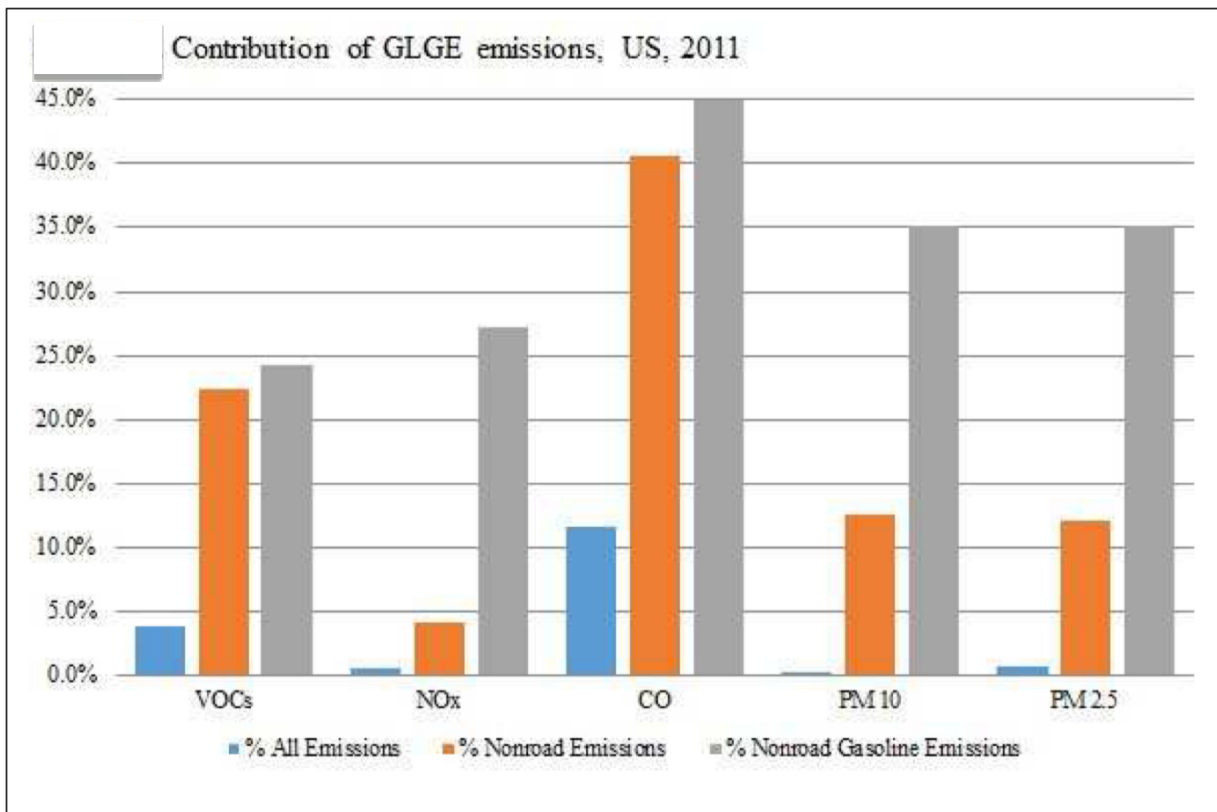
FINAL DRAFT

Why phase-out the use of gas-powered lawn and garden equipment (GLGE)?

To reduce greenhouse gas and other pollutant emissions,¹ protect human health², to protect the natural environment, increase sustainability efforts, and improve the overall quality of life within the City of Ashland.

GLGE equipment is notable for their emission of harmful and climate damaging pollutants. Figure 1, while dated, illustrates GPGE contributions as a percentage of all emissions, non-road emissions, and non-road gasoline emissions.

Figure 1.



Source: National Emissions from Lawn and Garden Equipment, Jamie L. Banks,

<https://environmentamerica.org/oregon/center/media-center/new-report-shows-shocking-amount-of-pollution-from-gas-powered-leaf-blowers-lawn-mowers-in-oregon/>

A 2023 study,³ estimates that GLGE produces 441,000 tons of carbon annually for Oregon, as whole. Distributing that tonnage using a per capita emission rate would mean about 2,300 tons are emitted annually in Ashland.

GLGE Health impacts

Studies show that there are significant health impacts from GLGE on workers and vulnerable populations who are exposed to emissions.

“The high levels of” volatile organic compounds (VOCs) and fine particulate matter (PM10 & PM2.5) “from GLGE are health risks for workers and other members of the public close to the emitting source. Although no studies of grounds maintenance workers were found, studies of gas station workers have shown that regular exposure to gasoline vapors can produce hematological and immunological abnormalities and elevate the risk of cancer.

“In addition, 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.”²

Table 1 and Figure 2 shows activity level and emissions data for GLGE at the national level for commercial and residential operators, respectively.

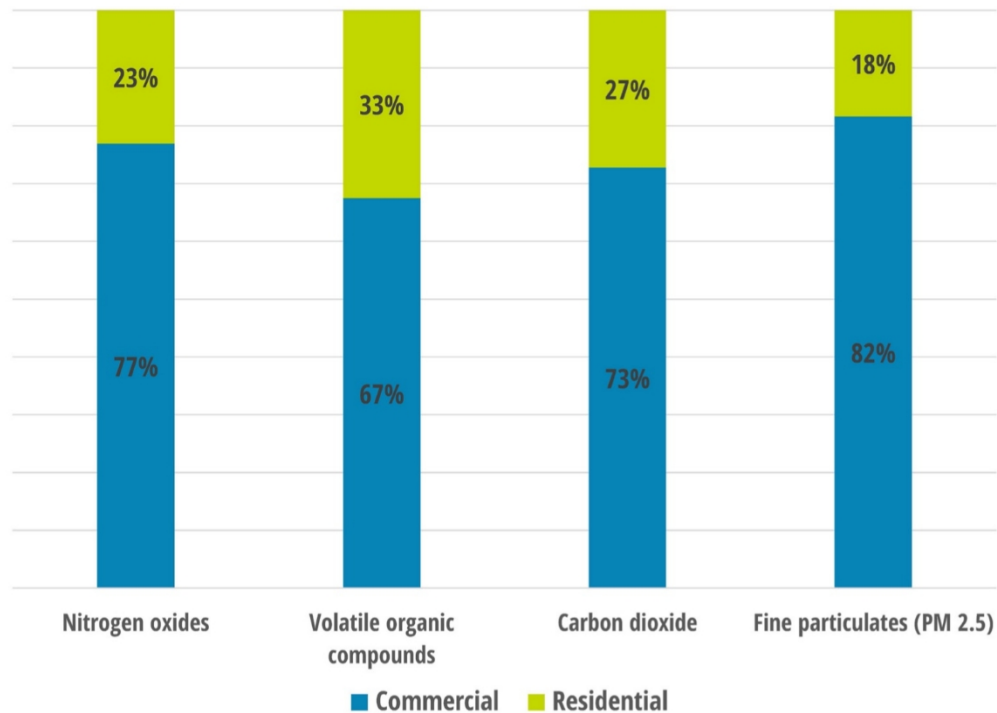
Table 1. Annual hours of use: residential versus commercial equipment of selected GLGE

Equipment type	Use	Activity level (Annual hours)
Lawn mowers	Residential	25
	Commercial	406
Trimmers/Edgers/Cutters	Residential	9
	Commercial	137
Leaf blowers\Vacuums	Residential	10
	Commercial	282
Chainsaws	Residential	13
	Commercial	303

Source: National Emissions from Lawn and Garden Equipment,

The emissions from GLGE, like the hours of operation, are skewed toward commercial equipment.

Figure 2. Share of emissions from commercial and residential lawn equipment



Source: IBID

Who uses GLGE?

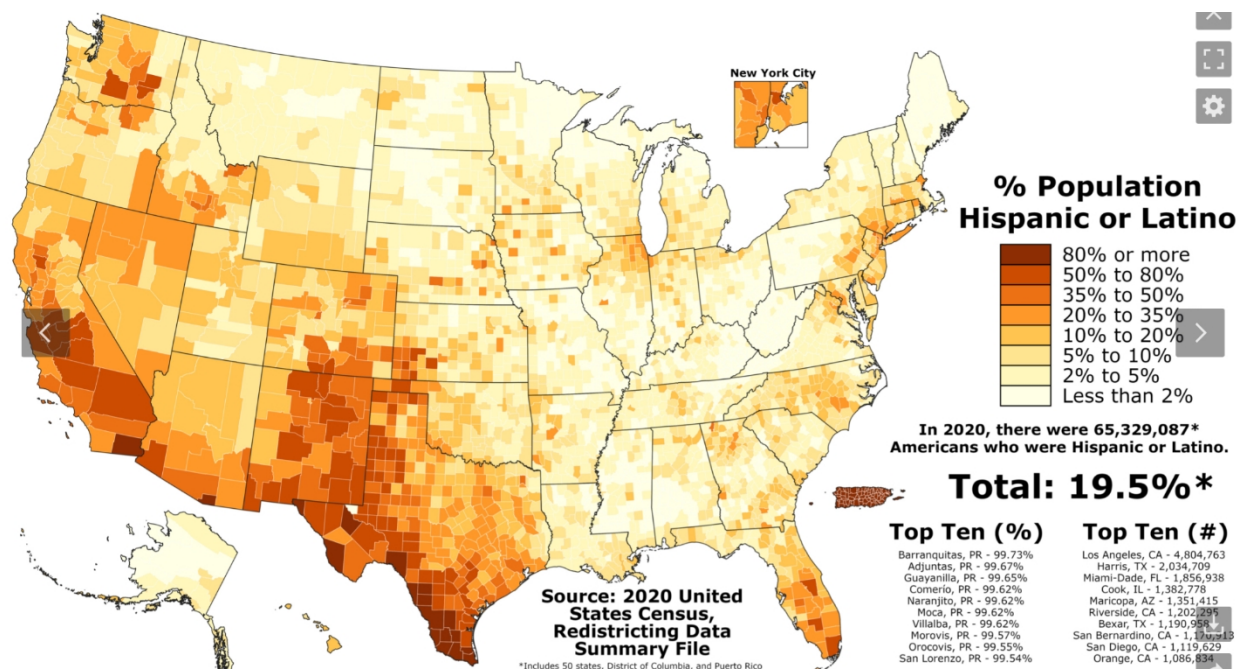
The operation of GLGE is common in the city. Both commercial lawn and garden maintenance firms and homeowners/renters use GLGE. Public agencies, including Ashland School District, City of Ashland (particularly the Parks and Recreation Department) and Southern Oregon University, also use GLGE.

While detailed Ashland specific socio-economic studies of the non-public operators of GLGE is not available, data at the national level provides useful insights. Table 2 provides racial and ethnic distribution of people working in the building grounds cleaning and maintenance occupations. Figure 2 provides an overview of population distribution.

Table 2.

Occupation	2023					
	Total employed	Percent of total employed				
		Women	White	Black or African American	Asian	Hispanic or Latino
Building and grounds cleaning and maintenance occupations	5,534	42.1	78.1	14.3	2.7	41.6
First-line supervisors of housekeeping and janitorial workers	321	44.1	77.2	17.3	2.1	31.8
First-line supervisors of landscaping, lawn service, and groundskeeping workers	283	8.0	84.7	12.0	1.4	30.4
Janitors and building cleaners	2,204	38.7	76.2	16.7	2.6	35.1
Maids and housekeeping cleaners	1,380	88.4	74.0	16.1	4.3	51.9
Pest control workers	90	5.1	84.7	9.2	1.7	21.6
Landscaping and groundskeeping workers	1,119	7.3	84.0	8.6	1.7	49.6
Tree trimmers and pruners	118	3.0	85.3	5.5	1.6	36.7
Other grounds maintenance workers	19	-	-	-	-	-

Figure 2.



Why focus on residential settings and commercial lawn and garden maintenance operators?

Commercial lawn and garden maintenance firms account for the vast majority of GLGE use (see Table 1) In residential neighborhoods the impacts of the operation of GLGE affect not only the operator but also residents of adjacent properties and those living more distant.

GLGE emissions disperse (i.e. drift) onto neighbors' properties and into homes. Noise impacts of GLGE are even more widely dispersed and likely exceed standards/protections provided for in the city's noise ordinance <https://ashland.municipal.codes/AMC/9.08.170>), especially in residential neighborhoods.

Table 3. Noise Levels of Gas and Electric GLGE

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

GLGE use by public institutions, while equally harmful to operators, have less impact on neighboring properties due the large size of the public's ownerships and isolation relative to residential properties. Further, public institutions vary widely in their missions and priorities. It is anticipated that these institutions will phase out GLGE by 2030 without the city's intervention. The same can't be said of commercial lawn and garden equipment firms

What equipment and when should GLGE be phased-out?

Only equipment with less than 25 horsepower will be phased out under this strategy. Additionally, between now and 2030 the use of the equipment, as specified in Table 4 may continue to be used on lots greater than one-half acre. However, the exception for larger lots will expire in January, 2030 when the equipment listed in Table 4 can no longer be used, regardless of the lot size.

Establishing the scope and timeline for phasing-out of GLGE is essential to allow residents, public institutions and commercial lawn and garden maintenance firms to plan both for the financial and operational changes this transition (from GLGE to their electric/battery operated alternatives) will require. Plans may include setting aside capital, modifying customer pricing, and/or altering service areas.

The following phasing plan recognizes the ever-evolving and improving cost effectiveness of electric and battery powered lawn and garden equipment.

Table 4.

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 lawn mowers	1/2027 (or 2 years after adoption)

The following list of equipment is not subject to the phase-out strategy regardless of horsepower rating:

1. Chippers/stump grinders
2. Tillers
3. Snowblowers
4. Turf equipment
5. Tractors
6. Shredders

Need for, targeting or financial incentives

It is in the public's interest to phase-out GLGE. Cost sharing, at least during a transition phase, is important in order to minimize any financial hardships.

The city's incentive program would include the following:

1. Incentives shall be limited to Ashland residents, and businesses as evidenced by the possession of an Ashland Business License.
2. Incentives shall subsidize all or part of the cost of the electric/battery powered equipment. The actual level of subsidy will be determined based upon available funding and projected demand for the incentive as determined by the city of Ashland.
3. Incentives shall be available during the year that precedes the replacement requirement of GLGE for the specific type of equipment to be phased out. For example, the incentive for leaf blowers shall be limited to the purchase of electric or battery power leaf blowers in the calendar year 2025.
4. Incentives shall only be available at Ashland retailers for the purchase of electric or battery powered equipment, including the purchase of a second battery or extension cord.

1. National Emissions from Lawn and Garden Equipment, Jamie L. Banks, <https://www3.epa.gov/ttn/chief/conference/ei21/session10/banks.pdf>
2. Summary Document: Operator Exposure to Emissions from Lawn and Garden Equipment, California Air Resources Board, October 12, 2018 https://ww2.arb.ca.gov/sites/default/files/2023-08/Exposure%20Study%20Summary%2010-12-2018_0.pdf

3. Lawn Care Goes Electric, Tony Dutzik, et.al. October, 2023 https://publicinterestnetwork.org/wp-content/uploads/2023/10/Lawn_Care_Goes_Electric_Oct23.pdf
4. <https://www.nonoise.org/library/household/index.htm>
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7. <https://www.leafscore.com/eco-friendly-garden-products/why-leaf-blower-bans-on-the-rise/#:~:text=Noise%20levels,range%20between%2065%20and%2070.>