

## **Reducing Sales and Emissions of Gasoline-powered Lawn and Garden Small Engines except Chainsaws**

The category of small engines variously referred to by the EPA as “nonroad engines”, or by others as “gasoline-powered lawn and garden equipment” (GLGE), or in California as “small off-road engines” (SORE) includes lawnmowers/string trimmers/edgers, leaf blowers, chainsaws, power washers, generators, snowblowers, outboard motors, snowmobiles, and all-terrain vehicles. Millions of these small engines are manufactured and sold annually; millions more are already in use and will likely continue to be used throughout their serviceable life. Unfortunately, emissions from these small engines are not regulated to the same standards as automobiles by the Environmental Protection Agency (EPA) or Minnesota Pollution Control Agency (MPCA) under the Clean Air Act.

Multiple studies of emissions from small engines (see attached documents) identify them as significant sources of air pollution, including carbon monoxide (CO), nitrous oxides (NO<sub>x</sub>), volatile organic compounds (VOC), particulate matter (PM) including the more harmful small particulates (<2.5 microns), and CO<sup>2</sup>. These pollutants contribute to adverse human health effects, such as cardiovascular disease, stroke, respiratory diseases, cancers, neurological conditions, premature death, and impacts upon prenatal development, from both short-term and long-term exposures. These engines also emit greenhouse gases which are contributing to climate change.

A study by Jamie L. Banks (PhD, MS for Quiet Communities Inc.) and Robert McConnell (Environmental Engineer for the US EPA – Region 1), found that, nationally, gasoline-powered landscape maintenance equipment (GLME) such as leaf blowers/vacuums trimmers, and edgers, brush cutters accounted for 43% of VOCs and around 50% of fine PM emissions from all gasoline-fueled nonroad equipment. Of these small engines, two-stroke engines contribute much higher levels of pollutants when compared to four-stroke engines; but they both contribute many times more pollutants than a more highly regulated automobile. In their discussion they state:

The main findings of this study are: 1) GLGE is a prevalent source of toxic and carcinogenic emissions; 2) GLGE contributes substantially to nonroad emissions of benzene, 1,3 butadiene, formaldehyde, CO, and fine PM; 3) GLME accounts for a disproportionately large share of VOC and fine PM emissions; 4) 2-stroke engines account for most fine PM emissions from GLME; 5) VOCs and NO<sub>x</sub> are projected to decrease substantially by 2018; CO emissions remain comparable to 2011 levels; and CO<sub>2</sub> and fine PM emissions are projected to increase modestly; and 6) the GLGE emissions contributions from the largest states are not always consistent with contributions to national population and national grounds maintenance workforce.

Their conclusion states:

GLGE is an important source of toxic and carcinogenic exhaust and fine particulate matter. Improved reporting and monitoring of localized GLGE emissions should be implemented. Medical and scientific organizations should increase public awareness of GLGE and GLME and identify GLGE as an important local source of dangerous air pollutants. Communities and environmental, public health, and other government agencies should create policies and programs to protect the public from GLGE air pollutants and promote non-polluting alternatives.”

The California Air Resources Board (CARB) found that a gas-powered lawnmower operating for 60 minutes contributes as much pollution as a four-hour (300 mile) trip by automobile from Los Angeles (CA) to Los Vegas (NV). A commercial leaf blower operating for 60 minutes emits as much pollution as an automobile driving from LA to Denver (1100 miles) over 15 hours. With the population of SORE exceeding that of automobiles in CA, the air quality impacts are significant, and the population of SORE is expected to increase as the state's population continues to grow. They project the SORE numbers to be nearly double the automobile numbers by 2031. This is a concerning trend. Other studies come to similar conclusions: that small engines are major contributors to poor air quality, and negatively impact human health.

There are solutions to most of these human health and environmental concerns. First, is to establish a sunset date to end the manufacture and sale of gasoline-powered lawn and garden equipment (GLGE) (or any fossil-fuel) small engines, while permitting the use of existing lawn and garden equipment, and exempting chainsaws.

Second, many of these tools are already offered in efficient and affordable electric models, either battery-powered (currently they're predominantly lithium powered) or plug-in versions utilizing household current. Electric lawnmowers, trimmers, blowers, chainsaws, etc., are now routinely available. These electric versions are typically quieter and emit no exhaust gases. Adoption of electric powered lawn and garden tools would be a significant step forward to cleaner, safer air, while also reducing greenhouse gas emissions that contribute to climate change.

To incentivize the purchase of new electric lawn and garden tools, we recommend a program that involves a cash rebate to offset the higher initial purchase prices. Like other energy savings rebates passed under the Inflation Reduction Act, this could be a cash rebate at the point of sale equal to 30% of the purchase price. Rebates could be offered through 2036, with the rebates highest in the initial four (4) years, then decreasing by five (5) percent during years 5-8, and another five (5) percent the final four years (years 8-12). The incentives would end Oct. 1, 2036, with the option of a ten-year extension to 2046.

**THEREFORE, BE IT RESOLVED, the Izaak Walton League of America assembled in Convention in Cambridge, Maryland, July 16, 2024, calls for the phasing out of the manufacture and sale of all GLGE (gasoline-powered lawn and garden equipment) except chainsaws and recommends the EPA strengthen emission standards on all GLGE (gasoline-powered lawn and garden equipment) small engines and align with standards comparable to emission limits established for all internal combustion automobiles sold in America.**