



OAKVILLE

REPORT

Council

Meeting Date: May 27, 2024

FROM: Strategy, Policy and Communications Department

DATE: May 14, 2024

SUBJECT: Use of Gas-Powered Equipment

LOCATION: Town Hall

WARD: Town-wide

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RECOMMENDATION:

That the town continue a phased-out approach to reduce the use of small gas-powered equipment by aligning with market conditions shifting from gas to electric equipment supplemented by an education and communications plan.

KEY FACTS:

The following are key points for consideration with respect to this report:

- This report responds to the request to report back on the feasibility of banning small gas-powered equipment (i.e., including, but not limited to, leaf blowers, trimmers, pole saws and lawnmowers) in relation to Agenda Item 7.4 at the Planning and Development Council meeting on December 4, 2023 ([Noise By-Law Update](#)) and in relation to Item 9.3 on the agenda for the Council meeting on July 11, 2023 ([Climate Emergency Declaration Progress Report](#)).
- The town has received concerns from residents that the use of small gas-powered equipment has negative impacts related to climate, air quality, health, and noise, and that such equipment is unnecessary due to the availability of alternatives.
- The Federal Government regulates air emissions from lawn and garden equipment through its Off-Road Small Spark-Ignition Engine Emission Regulations. The Province has the discretion to ban the sale of such equipment if necessary.
- Staff consulted with interested parties to gather information, including a survey and open house in February 2024, as well as virtual meetings with interested members of Resident Associations.

- After reviewing considerations and information related to climate, air quality, health, and noise, staff have determined that there is currently an insufficient basis to ban small gas-powered equipment for reasons including:
 - Market availability for commercial use equipment.
 - Prematurely retiring all small gas-powered equipment town-wide and directing this some of this equipment to landfill has its own negative environmental impact since small equipment is only partially recyclable.
 - A ban would be challenging to enforce and would require additional staff and financial resources.
 - A ban would impact the Parks and Open Space department having to convert its current outdoor maintenance equipment to electric. Staff advised that the town currently has \$1 million in such gas-powered equipment that would need to be replaced and disposed of if a ban is passed and would require \$2 million to replace with electric equipment. Additionally, there would be impacts to maintain services levels due to limitations related to battery-charge life and charging infrastructure.

- Staff have launched an awareness campaign to keep electric top of mind, for both contractors and residents. The current campaign will run annually for six months with key messages promoted at town facilities, on the town's website and social media. Residents will receive campaign messaging with their tax bill that will reach 60K homes.

- Staff will monitor progress of a funding proposal put forward by the Clean Air Partnership (CAC) to conduct a holistic review of two-stroke engine equipment for a deeper understanding of its impact on the local environment and human health. The study will include a jurisdictional scan, technical assessment, policies and enforcement, incentive programs and engagement with major retailers and service providers. The CAC is seeking eight municipalities to contribute \$10,000 each towards the study and Town staff have expressed interest to participate. The study is expected to conclude in March 2025.

BACKGROUND:

The town has received feedback from residents that small gas-powered equipment, particularly leaf blowers, lawn mowers, trimmers and pole saws are not only contaminating the environment with noise, but worsening the climate with excessive emissions, degrading air quality and compromising human health. The town currently has over 73,000 households, with almost 59,000 classified as single detached, semi-detached or row houses. Over the last 24 years, the Town of Oakville has received 29 noise related complaints from residents on the use of leaf blowers citing that the noise is a disturbance. In recent years, residents have

expressed growing concerns about the impact of small gas-powered equipment on climate, health, and air quality.

In [July 2023](#), staff advised Council that a review of small gas-powered equipment would be included as part of the update of the Community Energy Strategy (CES) planned for 2025. Since that time, staff prioritized an earlier review of the impact of small gas-powered equipment, including conducting research, engaging interested parties, and developing recommendations for consideration. The review included consultation with staff in Municipal Enforcement Services, Parks and Open Space, and Service Oakville, in addition to staff at Halton Region. External public consultation included community members, Resident Associations, and landscapers and maintenance companies.

COMMENT/OPTIONS:

Impact of Small Gas-powered Equipment

Staff have identified noise, climate change, air quality and human health as the main drivers of concern when considering the impact of small gas-powered equipment on the environment.

The four areas are summarized below.

Noise

Leaf blowers, whether gas-powered or electric, continue to be a source of noise in the natural environment. To address the impact of noise emitted by domestic tools, municipalities pass by-laws imposing time restrictions on when outdoor equipment can be operated. The town's [Noise By-Law](#) currently prohibits the operation of yard maintenance tools between 9pm and 7am (9am on Sundays). As part of the [current](#) review of the Noise Bylaw, staff were asked to consider a ban on small gas-powered equipment due to ongoing concerns from residents because of noise concerns. Specifically, staff were asked to look at the noise from leaf blowers as a 'noise contaminant' to the local environment.

The Occupational Health and Safety Act, specifically [Ontario Regulation 381/15](#) states that working in noisy environments with noise of 85 dB and higher is harmful to hearing. Gas-powered leaf blowers operate between 95-100 dB at the ear of the operator and reduce to 65-75 dB at 50 feet away. Electric leaf blowers' and low-noise gas-powered blowers' range between 65-80 dB at the ear of the operator. [Studies](#) have shown that the low frequency noise attributed to gas powered leaf blowers allows loud sounds at harmful levels to travel over long distances and penetrate walls and windows. Short- and long-term exposure to noise has been linked to health impacts of increased risks of heart attacks, strokes and other heart-

related problems, including hearing loss. The [CDC](#) lists gas-powered leaf blowers and lawn mowers among sources of loud noises that can damage hearing over time. [Health Canada](#) advises that operators protect their hearing by wearing earplugs or earmuffs while operating equipment like gas-powered lawn mowers and leaf blowers. Electric blowers could offer a reduction in decibels and harmful frequencies, resulting in a sound that dissipates over a shorter distance with a reduced ability to penetrate walls.

[The Natural Conservancy of Canada](#) states that noise pollution, also known as anthropogenic noise, can interfere with animal communication, hinder their foraging abilities and impact where they live. It also disturbs habitats for pollinating species like bees, butterflies and moths and smaller animals like chipmunks.

The primary goal of a noise by-law is to maintain a balanced living environment by setting standards and guidelines for acceptable levels of noise and establishing mechanisms for enforcement and compliance. By regulating the use of small gas-powered equipment rather than banning them outright, noise by-laws can address concerns about noise while still allowing for their functional benefits. This approach has the net benefit of establishing reasonable limits that minimize the disturbance to others.

Noise by-laws are often easier to enforce compared to outright bans. Ignoring the noise impact of other equipment could lead to inconsistencies and inequities in noise regulations.

Climate Change

The changing climate is highly attributed to the burning of fossil fuels. The main contributing sectors to high emissions of greenhouse gases (GHG) are primarily heating sources for buildings and fuel for transportation. The Town of Oakville's corporate [GHG inventory](#) points to these two sectors as the main sources of emissions for its corporate GHG emissions.

In Canada, the Federal Government regulates air emissions from lawn and garden equipment through its [Off-Road Small Spark-Ignition Engine Emission Regulations](#). Although its contribution to overall emissions are small relative to other sources, [emissions research](#) has shown that commercial leaf blowers after one hour of use generate pollution comparable with that of a 1,760 km drive in a car. Although not considered the main source of emissions for the town, continued use of small gas-powered equipment does contribute to overall carbon emissions that the town is working to reduce.

The Town of Oakville has committed to managing its GHG emissions in response to the climate emergency. In committing to doing so, the town's Parks and Open

Space department has been purchasing electric equipment as existing equipment nears end of life. Staff procure equipment based on availability and where there is adequate charging infrastructure in place to charge and store the equipment. Additional details on the rate and status of replacement are available in the subsection below on Municipal Operations and Impacts to Service Levels.

Data from [Statistics Canada](#) has also found that household ownership of gas-powered lawn and garden equipment in Toronto, including gas-powered leaf blowers, has been trending downwards from 2013-2021.

Equipment Type	2013	2015	2017	2019	2021
Lawn mowers – electric and/or manual	24%	28%	25%	27%	34%
Grass trimmers – electric	57%	57%	56%	61%	67%
Leaf blowers – electric	68%	65%	67%	70%	76%
Chain saws – electric	23%	25%	25%	28%	36%
Snow blowers – electric	6%	6%	9%	11%	13%

Health and Air Quality

Halton Public Health has not reviewed the impact that gas-powered equipment has on human health but continues to monitor this area closely. Public Health works with [Public Health Ontario](#) (PHO) which is an organization that partners with government and health officials to provide scientific evidence and expert guidance that shapes policies and practices. Halton Region advised that in 2019, PHO conducted a review (report is not public) that looked at possible exposures that could result from the use of gasoline-powered leaf blowers in residential settings, and how use of this equipment is regulated in other Canadian jurisdictions. The review touched on the most frequently reported exposures of potential concern for operators and surrounding communities, which were identified as noise, blown dust and debris, and emissions from the two-stroke engine combustion. The review also noted that where limits or restrictions exist on the use of leaf blowers in Canada, the most frequent rationale for doing so is to limit community noise during specific times of the day. The findings revealed that this equipment type is a source of emissions, and that operators may be exposed to elevated levels of noise and some pollutants; however, those exposures are mostly below occupational exposure limits.

Leaf blowers and other lawn and garden equipment are a source of non-road emissions, including fine particulate matter (PM), carbon monoxide (CO), and several volatile organic compounds (VOCs) impacting ambient air quality. Leaf blowers push large amounts of air at very high speeds, resulting in stirring up dust from ground surfaces, which could contain particulate matter, pollens and molds,

animal feces, heavy metals and chemicals from herbicides and pesticides. A study by the Environmental Protection Agency ([EPA](#)) found that electric leaf blowers and dry sweeping on concrete generated particulate levels similar to gas-powered leaf blowers.

Halton Region would have the responsibility of reviewing the impact that gas-powered equipment has on the health of residents and impact to air quality. Staff at the town confirmed that Halton Region has not completed such a review as complaints about the use of this equipment are typically related to noise which can be addressed through municipal by-laws.

Municipal Operations and Impacts to Service Levels

The town currently has 680 units of gas-powered equipment in its fleet that is used to maintain outdoor space. The equipment includes backpack blowers, trimmers, pole pruners and push lawn mowers with an estimated value of \$1 million. Staff in Parks and Open Space have advised that an immediate ban on small gas-powered equipment would incur significant costs to replace existing equipment. Additionally, there would be an increased risk of interrupted services for daily and emergency operations.

Daily Operations

Electric options available on the market have batteries that cannot hold a charge for more than 5 hours, which would be needed to continue town operations without compromising service levels. Also, there is not an electrical option for every equipment type that the town owns.

- Example: battery powered line trimmers last about 1 hour on a charge whereas the town has over 150 staff out for about 4-5 hours per day. Inadequate equipment, along with lack of charging infrastructure, would make it impossible to maintain the level of service needed with electrical equipment.

Costs

If the town's existing gas-powered equipment had to be replaced with electrical equipment, it would cost approximately \$2 million. This does not include the cost to complete the following:

- Complete a load analysis of town facilities to evaluate the electrical capacity to understand the upgrades that will be needed to support charging electrical equipment.
- Sourcing or developing the required facilities and charging infrastructure to store and charge the equipment.
- Upgrades to electrical panels at existing facilities to accommodate the additional electrical load to charge equipment.

It also should be noted that in replacing the existing equipment, the town would lose approximately \$1 million in assets and disposing of the existing equipment would certainly be impactful on the environment as not all the materials used to create trimmers, backpack blowers and pole saws can be reused or recycled.

Storage

Staff in Parks and Open Space have determined that Central Operations and the Southeast Depot do not have the space or the electrical capacity to store and charge up to 700 batteries a day. Staff are looking at alternatives to store and charge equipment for outdoor maintenance tools. If existing facilities had to be used to store and charge the equipment, there would be upgrades needed to the electrical panel along with upgrades needed to vehicles that would require charging ports to be able to charge on the road.

Parks and Open Space spends approximately \$30,000 a year to replace gas-powered equipment that is nearing end-of-life with an electric option. Cleaner options are considered where viable and include 4-stroke, 4MIX and electric units. For example, since 2020, 35% of the 43 gas-powered backpack leaf blowers have been replaced with electric ones. The town has also purchased 4 electric pruning poles and most recently procured 2 electric push mowers.

The timing to fully shift to electric equipment is dependent on market readiness. Staff support the electrification of the town's outdoor maintenance equipment and will continue to green equipment where options are available. Staff also recommend that in order to understand the electrification needs of the organization, a holistic low-carbon plan is required that addresses carbon emissions in all programs and service areas. This work is planned for 2025.

Ban on Small Gas-Powered Equipment in other Municipalities.

Municipalities do not have the authority to ban the sale of small gas-powered equipment; this rests with the Province. Typically, gas-powered leaf blowers are regulated through noise by-laws in other jurisdictions across Canada. However, some jurisdictions have taken specific steps towards a full ban, as noted below.

The ban in [West End Vancouver](#) was implemented through the noise by-law, with the goal of reducing noise in a densely populated neighbourhood. Since this by-law was enacted, there have been numerous complaints around a lack of enforcement and continued use of gas-powered leaf blowers.

In 2022, [Vancouver city council](#) unanimously passed a motion to get the city to phase out gas-powered landscape maintenance equipment, which includes lawn mowers, chainsaws and hedge trimmers, for personal and commercial use by 2024. The [Vancouver Park board](#) has converted 35 percent of its landscaping equipment

to battery power which has revealed limitations of battery life, power levels and availability of charging stations, and thus, will continue to use a hybrid fleet for the near future. [City staff have advised](#) council that a city-wide prohibition on all gas-powered landscaping equipment, or a ban on gas-powered leaf blowers would encounter the same challenges and likely would be unsuccessful. Vancouver does not have the authority to regulate equipment emissions but it can regulate the equipment under its [noise by-law](#) which only permits 'low noise' leaf blowers.

In the community of [Oak Bay](#), council voted in favour to phase out all gas-powered lawn equipment, including leaf blowers by the end of 2025 for resident and contractor use. The municipality will phase out gas-powered equipment by 2025. Landscapers and residential users will have three years to phase out their gas-powered equipment. The transition period would remove any unnecessary financial burden on residents to replace equipment immediately and allow for the migration to electrical equipment to happen over a period of time.

In May 2023, [Outremont](#), a small borough in Montreal, has prohibited the use of gas-powered leaf blowers or vacuums. Only electric blowers will be authorized for resident, landscaper and municipal use. Ville-Marie and Sud-Ouest boroughs also have bans on gas-powered blowers and Westmont is proposing an electric by-law.

On the flipside, in [Halifax](#), staff informed council that a ban on gas-powered equipment was not recommended for reasons of it being not enforceable, impacts to municipal service levels and increased financial costs for the municipality and residents. The city is supporting a shift to electric equipment by investing in battery-powered lawn equipment and will transition away from gas-powered tools when operationally suitable. Halifax spent approximately \$26,000 in 2023 toward battery-powered units, including about \$5,500 to replace gas-powered leaf blowers.

Meanwhile, in [Toronto](#) staff continue to review the potential of enacting a ban on gas-powered lawn equipment and its implications. A council report is not expected until at least the end of 2024. It already encourages leaf blower users to switch to battery power, rake their leaves or mulch them with a lawn mower.

Consultation Process

Public Consultation

Working with Municipal Enforcement Services (MES) staff, Climate Action staff participated in an open house on February 28, 2024, at town hall to hear from residents and gather feedback on the updates to the noise by-law and the potential ban of small gas-powered equipment.

Municipal Enforcement Services issued a survey on February 14, 2024, that included questions on the potential regulations on small gas-powered equipment.

The survey was open for 2 weeks and there were 838 respondents. The survey was sent to Resident Associations, landscapers and maintenance companies. The results from the survey conclude that,

- 61% of respondents indicated that noise is the main concern with gas-powered equipment followed by health and air quality and climate change.
- 51% of respondents indicated that a plan to manage gas-powered equipment should be applied to both residents and landscaping companies.
- 48% of respondents indicated that it would support the town in phasing out (not ban) gas-powered equipment, while 40% of respondents do not support a phase out of equipment. 10% of respondents remained undecided.

Staff received feedback at the open house and through email from concerned landscapers and contractors citing that a ban would have an immediate and detrimental financial impact to their business, particularly for small businesses. Landscapers and contractors have said that it would be difficult to maintain larger properties in a timely manner with battery-powered equipment and finding alternative sources to power their tools may include a gas generator or using the resident's electrical outlets. Concerns were also raised that on wet outdoor days, electric powered equipment would not be feasible to use. Contractors and landscapers are relying ultimately on the manufacturers to improve their tools and equipment as technology evolves and until then, are limiting the use of gas-powered equipment and using it as efficiently as possible.

Of note, Landscape Ontario, a horticulture trade association with over 3,000 members, has expressed interest in promoting climate friendly landscaping for landscapers based on technology and what is available.

Climate Action staff also engaged Resident Associations separately highlighting the opportunity for feedback through the open house and survey and offered time to meet virtually with interested individuals to discuss the matter.

Program and Service Areas

Climate Action staff have met with staff from Parks and Open Space and Municipal and Enforcement Services to understand the enforceability of a ban, what impacts it will have on service levels and the financial implications. Staff have also consulted with Halton Region on the impacts of gas-powered equipment to climate, human health and air quality.

Education and Awareness

Education and awareness play a crucial role in helping communities understand the environmental impacts of their daily choices. By providing information and raising

awareness, individuals can make more informed decisions that contribute to sustainability and environmental conservation. Through education and awareness campaigns, communities can empower individuals to adopt more eco-friendly behaviors and collectively work towards a healthier community.

Staff have launched an awareness campaign with the purpose to keep electric tools top of mind when buying new equipment for yard maintenance, for both contractors and residents. This campaign will run annually for six months during the yard maintenance season, with key messaging promoted in town facilities – community centres, libraries, and town hall. Residents will also receive campaign messaging with their tax bill that will be mailed in May and reach approximately 60,000 homes. Campaign information is also available on the town's website, with messaging being amplified through social media. Key messaging has been shared with the Resident Associations, Quiet Oakville, HACEN and GASP, and potentially more, who have offered to help share this message.

Advocacy

Environmental responsibilities cross all levels of government. Advocating to the Federal Government and the Province to review emissions and ban the sale of small gas-powered equipment is a critical step in addressing environmental concerns and promoting sustainable practices in the town. By advocating for a review of this equipment, individuals and municipalities can urge policymakers to implement stricter regulations or incentives for the use of cleaner, more efficient yard equipment. Alignment on this matter at the Federal and Provincial level are critical for successful implementation at the municipal level. The town will explore appropriate avenues to advocate with the federal and provincial governments to review the emissions from small gas-powered equipment, with a focus on impacts on human health, air quality, and other climate-related considerations to mitigate the adverse effects of gas-powered equipment. This has been added to the list of updated Priority Intergovernmental Requests which will be presented to Council on May 27, 2024.

Options Considered

Two main options were reviewed when considering the path to phase out gas-powered equipment, including:

1. An immediate ban on small gas-powered equipment for the community and the corporation, regardless of market readiness or support available to transition to electric equipment.
 - Key considerations:

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- Scope would include any use of small gas-powered equipment, which include leaf blowers, lawnmowers, trimmers, and pole saws for the corporation and community.
 - Financial impact to residents and commercial landscaping businesses.
 - Financial impact of \$2 million on the town corporation to replace existing equipment with an electric equivalent, if available, and excludes costs to upgrade electrical panels and supply required to support additional electrical load.
 - Impact to service levels to maintain outdoor space would occur due to lack of charging facility and battery storage life.
 - A ban would be difficult to enforce. Next steps would include identification of resources required to implement such a ban.
2. Continue a phase-out approach to reduce the use of small gas-powered equipment by aligning with market conditions shifting from gas to electric equipment, supplemented by an education and communications plan **(recommended)**
- Key considerations:
 - Recognizes the financial impact placed on residents, including significant impacts to commercial operators and the town corporation.
 - Acknowledges the limitations of current market readiness.
 - Market is already shifting from gas to electric equipment and can be amplified with education and outreach for wider adoption.
 - Other municipalities are considering education and awareness campaigns to help expedite the transition from gas to electric equipment, which is already happening.

Conclusion and Recommendation

A ban on small gas-powered equipment would impose financial impacts to both residents and businesses and force a premature disposal or resale of gas-powered equipment, both of which have a continued negative environmental impact. In addition to replacement equipment costs, lawn care companies operating in Oakville would also be required to purchase the necessary charging infrastructure to meet operational needs and may require extended working hours to accommodate for charging times. Banning the use of small gas-powered equipment in Oakville would also create difficulties for businesses operating in neighbouring municipalities.

The survey results indicate that there is not a clear path forward to ban the use of gas-powered equipment and that the decision needs to factor in other considerations such as financial impact to residents, contractors, and the town. The town would not only need to replace its fleet, but to upgrade infrastructure to support electrification.

For town operations, enacting a ban on the use of small gas-powered equipment on the basis of noise, climate, and health and air quality, either individually or collectively, would negatively impact the town's service levels. Staff will ensure that all decisions requiring the purchase of new equipment align to the town's [Sustainable Green Fleet Procedure](#) which encourages replacing fleet vehicles and equipment with fuel efficient, low emission and/or electric alternatives, in accordance with the most efficient and appropriate size, and the [Sustainable Purchasing Procedure](#) which prioritizes minimizing toxicity to protect health, air and water quality.

Regarding enforcement, a full ban would require additional staff resources and time to develop, implement, and enforce the by-law. Enforcement would be very challenging since gas-powered equipment would still be available for purchase along with resident and commercial reluctance to replace functional equipment.

Staff recommend that engaging citizens and commercial operators through a phase-out approach that educates and supports a transition to cleaner garden equipment is a more effective approach than a ban. The education and awareness campaign already underway will run annually during the six-month yard maintenance season, encouraging the public to use electric yard maintenance equipment.

CONSIDERATIONS:

(A) PUBLIC

A ban on the public use of small gas-powered equipment would place a financial burden on residents and landscaping companies to replace existing equipment with electric options; in many situations, market availability is still developing.

(B) FINANCIAL

The financial implications of a by-law to regulate or prohibit the use of small gas-powered equipment are unknown at this time and would need to be explored during the development of the regulatory framework and review of costs to monitor and regulate the ban. Immediate financial impacts would occur in Parks and Open Space of approximately \$2 million to replace equipment with further costs to be determined for battery storage and electrical panel capacity.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

If the recommendation to enact a ban is approved, Parks and Open Space level of services will be impacted to maintain outdoor space. Municipal and Enforcement Services will be impacted through having to enforce the ban.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses the corporate strategic goals to: Environmental Sustainability, Accountable Government and Community Belonging.

(E) CLIMATE CHANGE/ACTION

This initiative aligns with the town's long-term emission reduction goals and provides an opportunity to enhance and support climate change mitigation efforts.

APPENDICES:

Appendix A – Survey Results

Prepared by:

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Submitted by: Julie Clarke, Director, Strategy, Policy and Communications