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BOARD OF SUPERVISORS

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November 14, 2022

TO: Supervisor Holly J. Mitchell, Chair  
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FROM: Celia Zavala   
Executive Officer

**OPPORTUNITIES AND INCENTIVES FOR EMISSIONS-FREE LEAF BLOWERS  
(ITEM NO. 19, AGENDA OF JUNE 14, 2022)**

Background

On June 14, 2022, the Board of Supervisors (Board) adopted a motion, “Opportunities and Incentives for Emissions-Free Leaf Blowers,” directing the Chief Sustainability Officer to report back to the Board in writing in 120 days on the feasibility of banning the operation of gas-powered leaf blowers in unincorporated Los Angeles County (County). The Board also directed the Chief Executive Officer to report back to the Board in writing in 120 days on the feasibility of and impact to County operations and contracted services to ban the use of gas-powered lawn tools and transition to fully electric alternatives. This report serves as the response to the Board’s direction.

To provide a thorough report back, the Chief Sustainability Office (CSO) assembled a workgroup comprised of the CSO, Chief Executive Office (CEO), Internal Services Department (ISD), Public Works (PW), Department of Public Health, Parks and Recreation (DPR), Department of Economic Opportunity (DEO), and the Office of Immigrant Affairs in the Department of Consumer and Business Affairs.

External stakeholders, including several local jurisdictions and landscape businesses and organizations, were also consulted. This report focuses on the following areas:

- Local jurisdictions with policies regarding gas-powered leaf blowers

- Feasibility of outreach to businesses and community stakeholders, including a summary of multilingual education and outreach strategies
- A potential phased approach or pilot program
- Environmental, public health, and business impact of Assembly Bill 1346 (Berman), which bans the sale of “small off-road engines” by 2024
- Potential grant, rebate, and buyback opportunities
- Analysis of and impact to the County’s operations and contracted services with respect to the use of gas-powered lawn tools and the feasibility of a transition to fully electric alternatives

### **Local jurisdictions with policies regarding leaf blowers**

Approximately 80 local jurisdictions throughout California have enacted some sort of policy limiting the use of leaf blowers, particularly those that are gas-powered. These policies use a range of policy approaches, including banning the use of gas-powered leaf blowers, banning the use of all leaf blowers altogether, or noise and/or time of day restrictions on leaf blowers. Additionally, it is important to note the difference between banning the use (i.e., no longer allowed to operate) of gas-powered leaf blowers and banning the sale (i.e., no longer allowed to sell) gas-powered leaf blowers.

Approximately 25 cities throughout California have banned the use of gas-powered leaf blowers, including the Cities of Beverly Hills, Claremont, Los Angeles, Palos Verdes Estates, Santa Monica, South Pasadena, and West Hollywood. Cities have cited harmful greenhouse gas emissions and noise pollution as motivating factors for implementing local bans against gas-powered leaf blowers.

### **Feasibility of outreach to businesses and community stakeholders**

Should the County adopt an ordinance that bans the use of gas-powered leaf blowers, conducting outreach to businesses and community stakeholders will be important. The County should prioritize developing multilingual, culturally appropriate, and immigration sensitive education and outreach strategies to ensure that all members of the landscaping industry, including those without a business license, will be contacted regarding a potential change in policy, a potential pilot program, and potential funding opportunities that are and may become available. Utilizing existing databases managed by the State of California (State) and the County can play a key role in ensuring that the outreach conducted is far-reaching and comprehensive.

### **Feasibility of outreach to licensed landscaping businesses**

For landscaping businesses who are operating with a license, there are databases that can be utilized to conduct outreach. The Contractors State License Board (CSLB), which falls under the California Department of Business and Consumer Affairs, has a list of all the licensed contractors in California.<sup>1</sup> By selecting “C-27 – Landscaping Contractor” in the “License Classification” section of the search, all businesses registered with the State in the specified city or ZIP code can be identified and then contacted. The CSLB database can play a significant role in the feasibility of outreach to businesses. Additionally, the DEO secured a list of landscape contractors in the unincorporated areas of the County.<sup>2</sup> Moreover, the California Landscape Contractors Association (CLCA) is the largest landscape contractors association in California, and the CLCA could be a partner entity in outreach efforts. Media outlets can also play a key role in outreach, especially with regard to multilingual outreach. By utilizing State and County databases and networks and media outlets, it is reasonable to suggest that outreach to licensed landscaping businesses can be far-reaching and comprehensive.

### **Feasibility of outreach to unlicensed landscaping businesses**

Conducting outreach to unlicensed landscaping businesses will present a greater challenge. Unlike licensed landscapers who are registered with the State and County, there is no database of unlicensed landscaping businesses. Potential pathways for outreach to unlicensed businesses include partnering with community-based organizations, hardware and landscaping stores, and property owners. Moreover, accessible multilingual outreach and engagement material that can reach diverse populations will be an important tool to engage unlicensed landscaping businesses.

### **Feasibility of outreach to community stakeholders, including property owners hiring landscapers**

Community stakeholders, including property owners hiring landscapers, can be reached in a variety of ways. Property owners who hire landscapers to maintain property can be reached through traditional methods, such as flyers, emails, and social media. Other community stakeholders, such as homeowners and multi-unit property owners who may own lawn equipment such as leaf blowers, that might maintain their own property or their neighbors’ property can also be contacted through traditional methods. It is feasible to conduct comprehensive outreach to these stakeholders. Furthermore, community groups and gathering places, including but not limited to parks, libraries, commissions, chambers of commerce, schools, gardening clubs, town councils,

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<sup>1</sup> [Find My Licensed Contractor – Search by Location - CSLB](#)

<sup>2</sup> [2022-07-28 County Landscapers Database, DEO](#)

neighborhood watch groups, can help with the necessary outreach to ensure the outreach is comprehensive and is reaching the stakeholders that need to be reached.

### **A potential phased approach or pilot program**

There are several potential avenues by which the Board, should it choose to implement an ordinance banning the use of gas-powered leaf blowers, can adopt a phased approach or pilot program. An ordinance could be constructed to ban County-operated equipment first and then later apply to all residents. The Board could also adopt a policy that gradually phases out existing gas-powered leaf blowers by first phasing out new sales. As an alternative, an ordinance could be structured to phase-in restrictions based on sizes of businesses, recognizing that conversion may be more challenging for small businesses. A phased approach could also be helpful to recognize potential supply chain difficulties, availability of commercial-grade equipment, and to minimize impacts to the County's operations and contracted services. Overall, a phased or pilot approach can be beneficial in ensuring ordinance compliance.

### **Phased approach**

When adopting and implementing their ordinance limiting gas-powered leaf blowers, the City of Pasadena opted for a phased approach. While the City adopted its ordinance in April 2022, the "two-phased implementation timeline" will "prohibit leaf blowers starting February 28, 2023 for equipment operated by the city; and starting April 28, 2023 for equipment operated by any other person."<sup>3</sup> According to the City of Pasadena, the phased approach will allow for the community to be better informed and educated about the new law, and the approach gives time for those who own gas-powered leaf blowers to purchase electric ones.

The County could adopt its own multi-phased implementation timeline with varying compliance deadlines for different stakeholder groups, which could include County-operated products, property owners, businesses with a relatively higher number of employees, and businesses with a relatively smaller number of employees. This multi-phased approach could help mitigate the impact that a conversion from gas-powered leaf blowers to electric alternatives could have on small businesses. Approximately 93 percent of landscape contractors in the unincorporated County have 10 or fewer employees, and approximately 78 percent have five or fewer employees.<sup>4</sup>

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<sup>3</sup> [Leaf Blower Ordinance to Take Effect in Two Phases Starting Early Next year – Pasadena Now](#)

<sup>4</sup> [2022-07-28 County Landscapers Database\\_DEO](#)

### **Pilot program approach**

The County could opt to design a pilot program, for instance focusing on equipment or a portion of the equipment operated by the County. This would allow the County to gather data on resources needed to support conversion before applying the phase-out Countywide. Recognizing that conversion may be more challenging for Departments with limited budgets or smaller businesses in the County, a pilot approach can be beneficial in ensuring compliance.

### **Environmental and public health impacts of AB 1346**

AB 1346 was signed into law by Governor Newsom on October 9, 2021. It prohibits sale of most new small off-road engines (SORE), including gas-powered leaf blowers, beginning 2024. This bill was passed by the legislature to encourage the California Air Resources Board (CARB), which holds the regulatory authority over SORE, “to act expeditiously to protect public health from the harmful effects of small off-road engines”<sup>5</sup> and to expedite a transition to zero-emissions equipment. These harmful effects include significantly negative impacts to noise, air quality, and climate change.

The individuals who are vulnerable and sensitive to harmful exposure levels of noise are newborns, children, older adults, chronically ill, people with hearing impairment, people with mental illness, and workers.<sup>6</sup> Workers are most directly negatively impacted by the noise created by gas-powered leaf blowers. The typical gas-powered leaf blower can emit between 80 and 85 decibels, which means damage to hearing is possible after just two hours of exposure.<sup>7</sup> Studies have shown that the negative health effects on workers can include psychological and physiological problems, headaches, stress, loss of concentration, significant increase in risk of hypertension, and cardiovascular health.<sup>8</sup> Furthermore, SORE have been linked to adverse health effects, including “early death, stroke, congestive heart failure, asthma, chronic obstructive pulmonary disease, and cancer”<sup>9</sup> due to the toxic compounds associated with gas-powered garden and lawn equipment, including leaf blowers.

In addition to the negative impact on the health of workers and other vulnerable populations who are in proximity to them, SORE contribute significantly to poor ambient air quality. SORE emit high levels of air pollutants, including oxides of nitrogen (NOx),

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<sup>5</sup> [Bill Text - AB-1346 Air pollution: small off-road engines. \(ca.gov\)](#)

<sup>6</sup> [Noise and health in vulnerable groups: a review - PubMed \(nih.gov\)](#)

<sup>7</sup> [What Noises Cause Hearing Loss? | NCEH | CDC](#)

<sup>8</sup> [Noise characteristics of grass-trimming machine engines and their effect on operators Mallick Z, Badruddin IA, Khaleed Hussain M T, Salman Ahmed N J, Kanesan J - Noise Health \(noiseandhealth.org\)](#)

<sup>9</sup> [Microsoft Word - IEI 2015 Paper\\_Final\\_041015 \(epa.gov\)](#)

reactive organic gases (ROG), and particulate matter (PM). Ozone, a criteria air pollutant, is formed by NO<sub>x</sub> and ROG, both of which are emitted by SORE. California exceeds the United States Environmental Protection Agency and State standards for ozone in the South Coast Air Basin (SCAB)<sup>10</sup>, which is where most County residents are located. Additionally, NO<sub>x</sub> also contributes to formation of PM, and the SCAB currently fails to meet PM standards. Furthermore, the Antelope Valley Air Quality Management District (AVAQMD) is not meeting State attainment standards for either ozone or PM<sup>11</sup>. In 2021, CARB stated that operating a gas-powered leaf blower for one hour “emits smog-forming pollution comparable to driving a new light-duty passenger car about 1100 miles – about the distance from Los Angeles to Denver.”<sup>12</sup> Additionally, despite commercial lawn and garden equipment accounting for only eight percent of all SORE, they are responsible for 20 percent of the smog-forming emissions during the summer.<sup>13</sup>

### **Business impacts of AB 1346**

While the environmental and public health benefits of banning new SORE sales are clear, it is less clear what kind of impact banning new SORE sales would have on businesses since the law has not yet gone into effect. In this context, it is important to consider the manufacturers that produce SORE, companies that sell SORE, and the customers who purchase SORE. Additionally, this law may create greater demand for manufacturers to produce more electric leaf blowers, which would over time lower the cost and further increase their availability on the open market. This law may also encourage manufacturers to develop a trade-in system where gas-powered equipment can be traded in for an electric alternative.

Large, nationally recognized manufacturers that produce SORE include but are not limited to BLACK+DECKER, ECHO, DEWALT, Husqvarna, Milwaukee, RYOBI, and Stihl. These manufacturers and many others like them not only produce SORE but also produce zero-emissions alternatives to their products, including electric leaf blowers. Midsized and small manufacturers may also produce electric alternatives to garden and lawn equipment. Once AB 1346 is fully implemented, which could be as early as 2024, it is possible that manufacturers who only produce gas-powered garden and lawn equipment shift towards manufacturing tools that are compliant with the law; however, this outcome is not certain as those manufacturers may opt to leave the industry in the State entirely. It is also important to note that companies and stores that sell gas-powered leaf blowers largely also sell fully electric alternatives.

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<sup>10</sup> Ibid.

<sup>11</sup> [AVAQMD+2017+Attainment+Status+Table.pdf \(ca.gov\)](#)

<sup>12</sup> [Microsoft Word - 2021 SORE Fact Sheet.docx \(ca.gov\)](#)

<sup>13</sup> [SORE - Small Engine Fact Sheet \(ca.gov\)](#)

The potential impact of AB 1346 on customers who seek to purchase or utilize a leaf blower can vary as a customer could be an employee of a landscaping company or a property owner. Nevertheless, electric leaf blowers are widely available, and customers have the option to purchase such products today should they so choose.

### **Potential grant, rebate, and buyback opportunities available**

To help the transition away from gas-powered leaf blowers to fully electric alternatives, it is imperative that grants, rebates, and buyback opportunities are available for those who utilize this equipment, including landscapers. AB 1346 includes \$30 million in funding that will be made available to sole proprietors and other small landscaping businesses to help with the transition to zero-emission SORE, including leaf blowers. Additionally, the South Coast Air Quality Management District (SCAQMD), AVAQMD, and CARB have programs that can help replace gas-powered residential lawn mowers and commercial lawn and garden equipment, including leaf blowers.

SCAQMD has two programs that can help replace gas-powered residential lawn mowers and commercial lawn and garden equipment, including leaf blowers. SCAQMD's Commercial Electric Lawn and Garden Program is an equipment incentive and exchange program that offers up to 75 percent off commercial lawn and garden equipment when scrapping an existing gas-powered tool. In addition to SCAQMD's programs, the AVAQMD offers rebates to residents who wish to exchange working gas-powered lawn equipment for a rebate on the purchase of clean battery-electric equipment.

On September 22, 2022, CARB announced the opening of a new funding category offered through its Clean Off-Road Equipment Voucher Incentive Project (CORE), which will make point-of-sale discount vouchers available for zero-emission professional landscape service equipment. Over \$27 million of voucher funds will be made available via CORE for professional landscape services operated by small businesses or sole proprietors.

### **Analysis of the Impact to County Operations and Contracted Services**

In response to the June 14, 2022, Board motion, the CEO, in consultation with representatives from the ISD, PW, DPR, and other impacted departments, also formed a workgroup to provide a thorough and comprehensive report back on the feasibility of and impact to County operations and contracted services to ban the use of gas-powered lawn tools and transition to fully electric alternatives. The report is broken out into two sections, County Operations and Contracted Services with details as follows:

## County Operations

The potential impacts to County operations (e.g., services) in transitioning to the use of fully electric alternative lawn and garden equipment include the following considerations and concerns.

- **Equipment Availability:** The market for lawn and garden equipment, such as hedge trimmers and chainsaws appear to be more readily available for residential rather than commercial users. Leaf blowers are also less powerful as the air speed is reduced by about 25 percent.<sup>14</sup> Several of the gas-powered tools utilized by County employees do not have current market comparable electric versions and procurement of electric equipment could have long lead time/backorders.
- **Increase in Labor & Equipment Costs:** The initial purchase price for electric alternatives is expected to be 25 percent more than gasoline-powered versions, while the operational time for electric alternatives is considerably less than the gas-powered equipment. Given that County employees often work extended hours in remote locations, several backup batteries will be required, which will need to be accounted for in the initial investment. For example, the run time on one electric leaf blower reviewed is 90 minutes on a low setting, with a recharge time of 75 minutes. This is compared to eight hours of operational time for a gas-powered tool. More comprehensive information is needed regarding field testing for overall longevity of electric equipment, its impact to labor to perform these tasks, quantity of necessary backup batteries, and timeline to transition gas-powered versions to electric because all these components will have cost impacts.
- **Battery Replacement & Recharging:** As batteries are crucial components, County departments will need to invest in spare battery packs, replace batteries as they lose their ability to recharge, and recycle or dispose of defunct batteries. In addition, there is a need to establish an infrastructure to recharge these batteries. Currently, there are two potential battery charging options: County facilities and field vehicles. The potential issues with using County facilities are end-of-day or overnight charging and planning for emergency situations such as power outages. County facilities will experience an increase in electricity costs. The County has a zero-emission fleet purchasing policy in place, but the transition has not been completed. If the County elects to transition lawn tools to fully electric alternative, gas-powered field vehicles could be used to recharge batteries in the field. However, this would offset the benefits of using emission-

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<sup>14</sup> [Leaf Blowers - Grainger Industrial Supply](#)



free electric lawn and garden equipment. If the County elects to use electric vehicles to recharge the batteries for the lawn and garden equipment, this action may potentially drain the batteries of the electric vehicle. Both County facilities and fleet vehicles will require adequate and safe space to store or carry spare batteries and may be targeted for theft.

- Equipment Servicing: County employees directly maintain and service many current tools and equipment; electric equipment is not as serviceable. If something needs repair, the equipment is anticipated to be sent to outside mechanics and technicians and spare parts will need to be provided in a timely manner. Alternatively, County employees will need to be trained on how to service any new types of equipment.

It is feasible for the County to transition to electric power for certain tools and equipment. However, additional funding will be necessary to purchase these electric powered tools and equipment, back up batteries, battery recycling, staff training, and operational shifts to systemize battery charging and the transportation of backup batteries. A transition to electric powered equipment would result in less noise pollution, convenience of interchangeable battery packs with other battery-electric power tools (power drill, circular saw, etc.), and potential savings from eliminating gasoline costs.

### Contracted Services

Six County departments manage a total of 76 landscape and/or grounds maintenance contracts, which cumulatively provide services to 589 County facilities. To directly capture the needs and concerns of these contractors, the County commissioned a survey, which was distributed on July 20, 2022. The survey was sent to a total of 15 current County landscape contractors. Eight contractor responses were received and found the following:

- Majority are currently using gas-powered lawn equipment
- 37 percent indicated it **is feasible** for their organization to transition the use of gas-powered lawn equipment to fully electric alternatives
- 63 percent indicated it is **not feasible** for their organization to transition the use of gas-powered lawn equipment to fully electric alternatives

Contractor responses related to time and cost estimates for contractors to transition the use of gas-powered lawn equipment to fully electric alternatives varied greatly due to the complexity and uniqueness of each contract, ranging from \$90,000 to \$1.5 million additional cost per contract, per year, to upwards of five times the current pricing on all

contracts, more if Consumer Price Index is factored in and anywhere from 30 days up to 10 years to transition. With respect to time needed to transition, the period for leaf blowers is estimated to be much quicker and more cost effective compared to other larger lawn and garden equipment (e.g., riding mowers). The County's contractors noted that periodically, there are buyback programs available from various landscape equipment manufacturers to encourage procurement of lower emission gas-powered equipment to electric equipment that can be utilized to off-set and mitigate the financial impact for the transition from gas-powered lawn equipment to fully electric alternatives.

Based on the initial feedback from contractors, additional time will be required to determine the feasibility and impact to contracted services to ban the use of gas-powered lawn tools and transition to fully electric alternatives. While County contractor equipment and labor costs would increase, it is feasible to transition small lawn equipment to electric alternatives, such as leaf blowers and other hand-held equipment. However, additional time is needed to determine the feasibility as it relates to turf maintenance service equipment.

Through the survey, County contractors also indicated that a County Informational Session describing the SCAQMD incentive program and how to apply would be a helpful educational/outreach strategy to ensure that all members of the landscaping industry have access to incentive programs and possible funding streams for the SCAQMD incentive program for commercial landscapers and gardeners, under which they could receive up to 75 percent off equipment purchases.

Should you have any questions concerning this matter, please contact me or Rita Kampalath, Interim Chief Sustainability Officer, at (323) 459-3939 or [rkampalath@cs0.lacounty.gov](mailto:rkampalath@cs0.lacounty.gov).

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