



QC/PDX

Quiet Clean PDX

Working to eliminate gas powered leaf blowers

**We all want clean, safe outdoor spaces
but....**

Gas Powered Leaf Blowers are Hazardous

Extreme Noise
Toxic Emissions
Environmental Hazards



Alemeda School: Husqvarna gas blowers do not comply with Portland Noise Ordinance

Battery electric alternatives are better

Low Noise

No Toxic Emissions

No Environmental Hazards



EXTREME NOISE

“Being around too much loud noise—like using a leaf blower or going to loud concerts—can cause permanent hearing loss.”

Centers for Disease Control and Prevention

“environmental noise is associated with an increased incidence of arterial hypertension, myocardial infarction, and stroke.”

European Heart Journal

“enduring exposure to noise in early childhood affects the development of basic language functions”

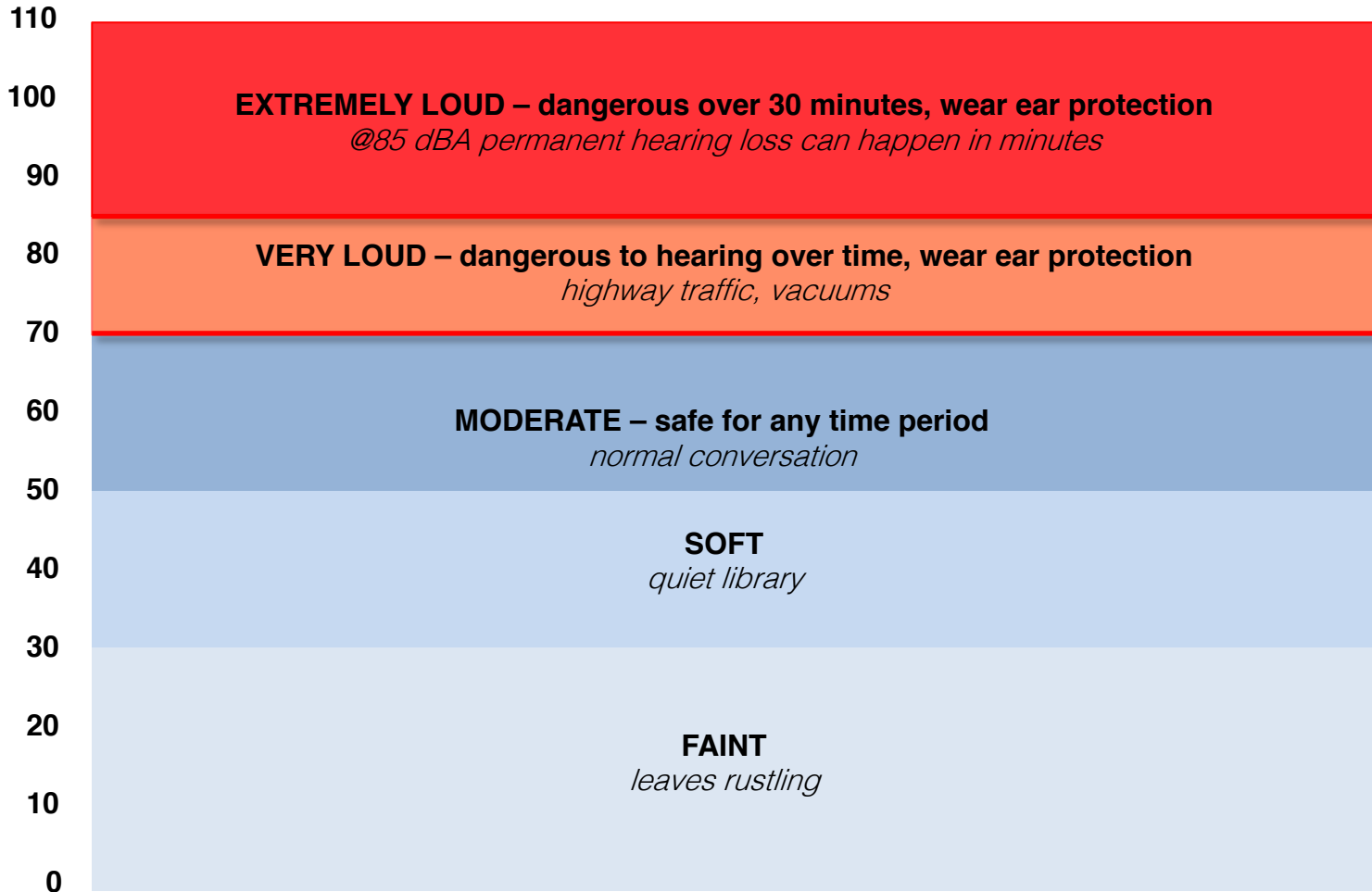
Center for Cognitive Science

“Loud noise can create physical and psychological stress, reduce productivity, interfere with communication and concentration”

Occupational Safety and Health Administration

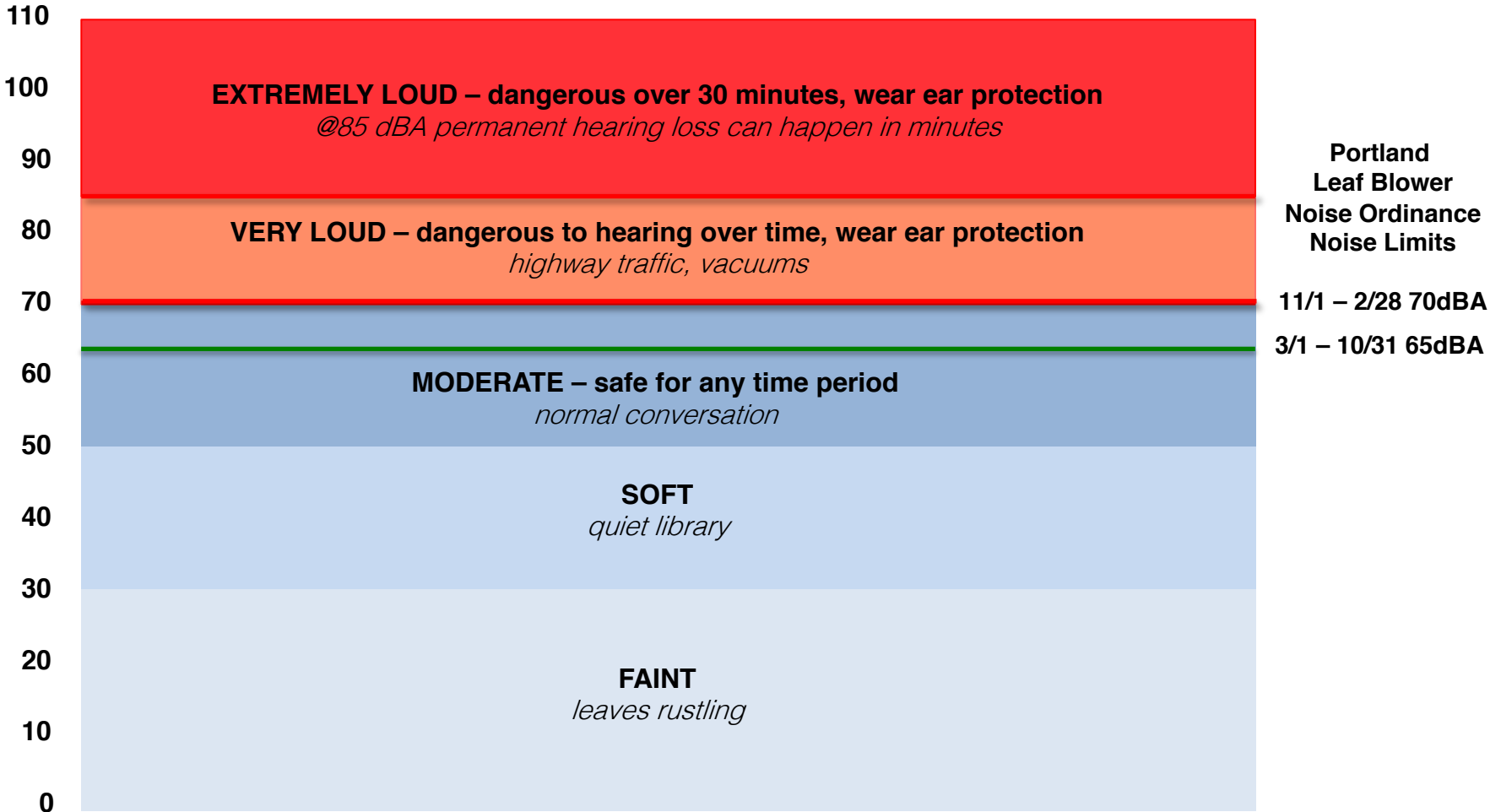
NOISE LEVELS AND SAFETY

NOISE LEVEL dBA – Percieved as a doubling of “loudness” every 10DBA

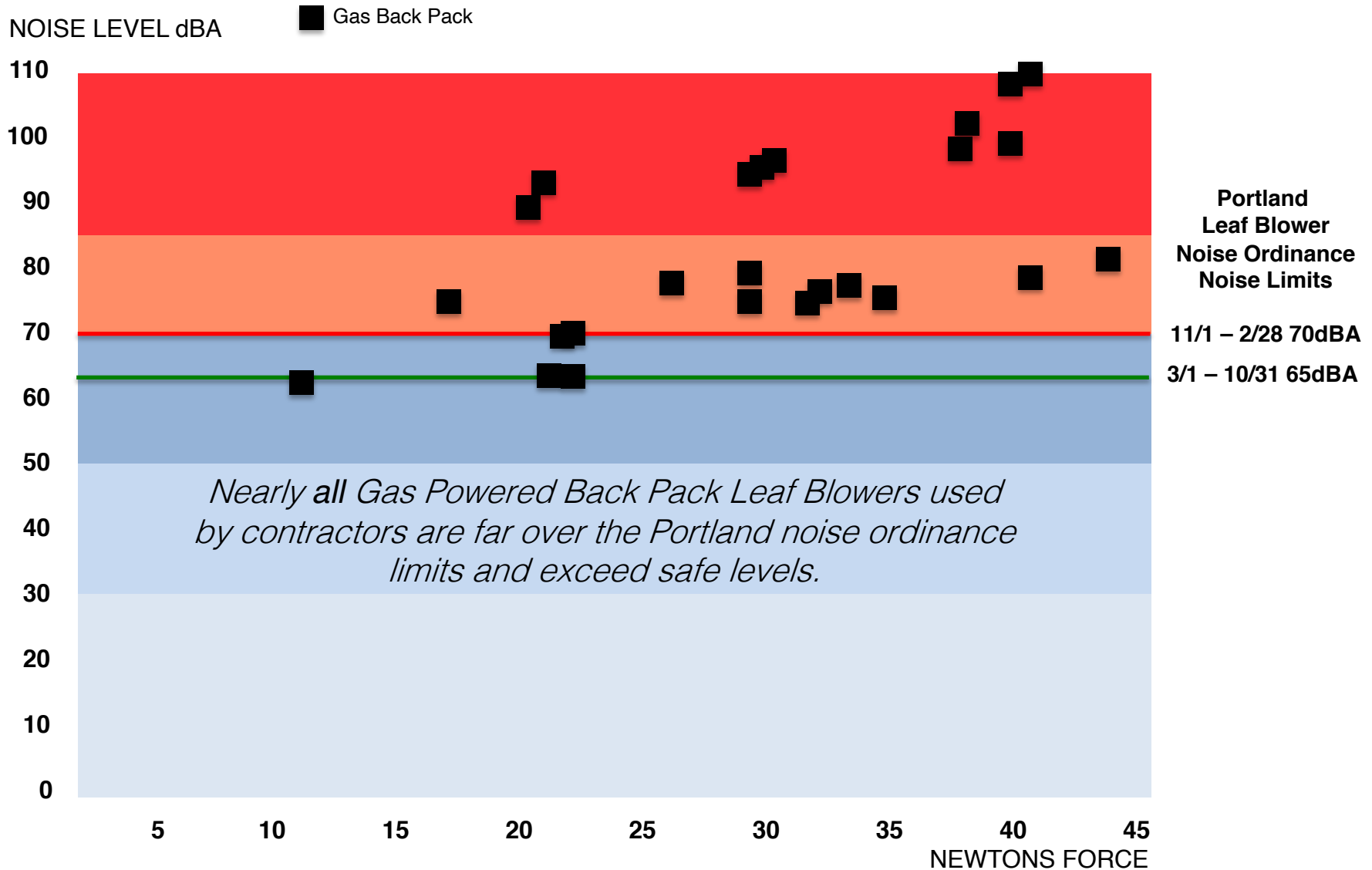


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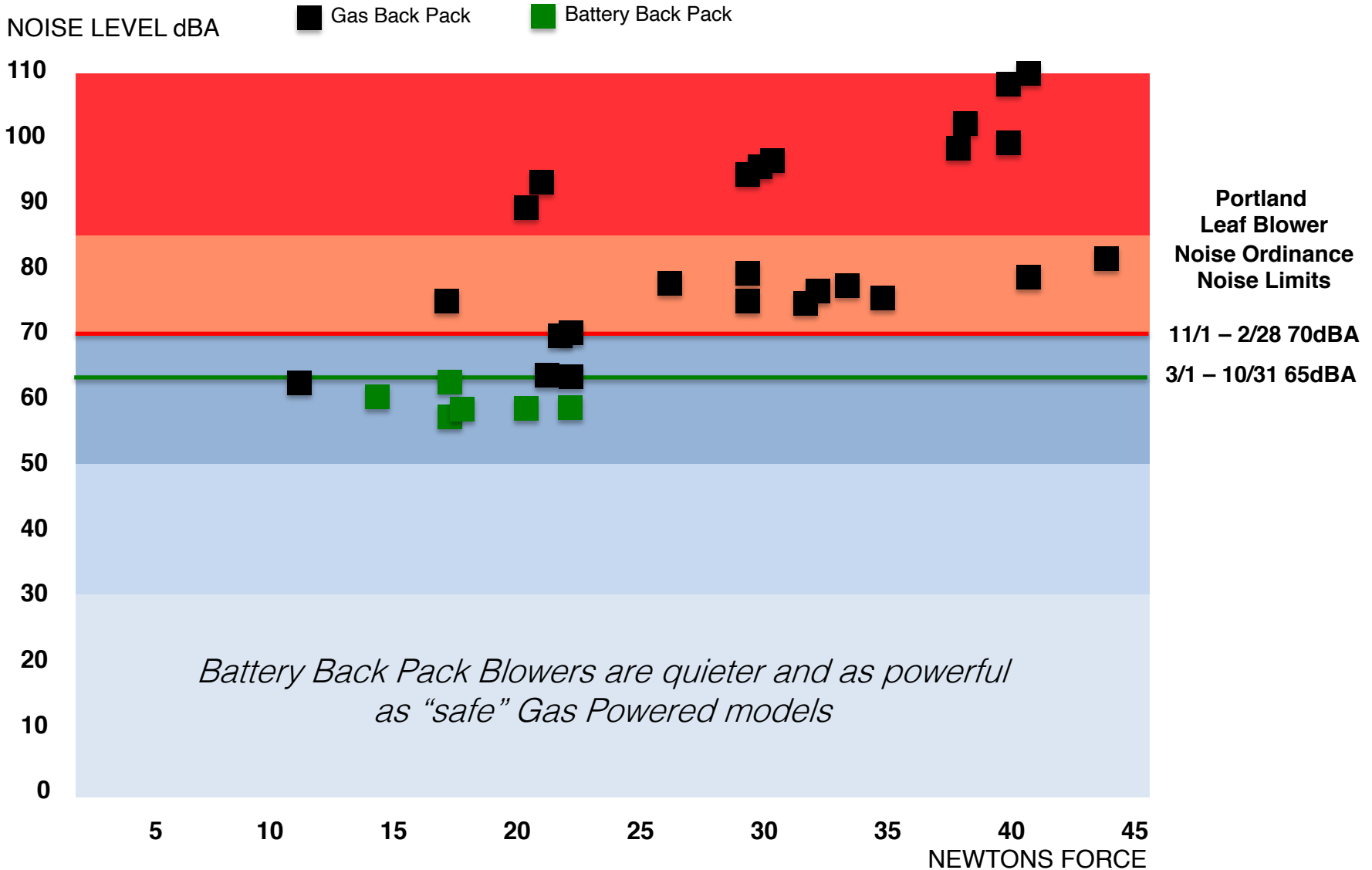


BACK PACK LEAF BLOWERS – NOISE vs FORCE



From: Manufacturers website data on force and certified noise ratings as per ANSI B175.2-2000
Echo, Stihl, Husqvarna, Makita, EGO, Oregon

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TOXIC EMISSIONS

**1 HOUR
Blowing** = **1,100
Car Miles**

*Gas powered blowers are hundreds of times more
polluting than automobiles*



TOXIC EMISSIONS



A typical ½ hour job by a landscape contractor creates more air pollution than a car idling in your driveway for 10 hours

TOXIC EMISSIONS

“Lawn and garden equipment like mowers and leaf blowers produces over 80,000 pounds of smog-forming pollutants on a summer day in the Portland-Vancouver region”

Oregon Department of Environmental Quality

“Total smog-forming emissions from small gas engines already exceed emissions from light-duty passenger cars in California.”

California Air Resources Board

EMISSIONS – MORE AIR POLLUTION THAN CARS



Ford F-150 Raptor



Gas Powered Leaf Blower

Non Methane Hydrocarbons	0.005 g/min	1.495 g/min	<i>300X more</i>
Oxides of Nitrogen	0.005 g/min	0.010 g/min	<i>2X more</i>
Carbon Monoxide	0.276 g/min	6.445 g/min	<i>23X more</i>



Gas Powered Leaf Blower

Non Methane Hydrocarbons

Yes

Oxides of Nitrogen

Yes

Carbon Monoxide

Yes

Health risk and smog forming pollutants. CA estimates small gas engines are the #1 producer of these emissions.



Gas Powered Leaf Blower

Non Methane Hydrocarbons	Yes	<i>Health risk and smog forming pollutants. CA estimates small gas engines are the #1 producer of these emissions.</i>
Oxides of Nitrogen	Yes	
Carbon Monoxide	Yes	
Benzene	Yes	<i>Known by EPA and Health organizations to increase risk of cancer, respiratory, cardiovascular and neurological disease</i>
Butadyene	Yes	
Formaldehyde	Yes	
Fine Particulates	Yes	

TOXIC EMISSIONS AND HEALTH HAZARDS



Gas Powered Leaf Blower



Battery Powered

Non Methane Hydrocarbons	Yes	<i>Health risk and smog forming pollutants. CA estimates small gas engines will be #1 producer of these emissions by early 2020's</i>	No
Oxides of Nitrogen	Yes		No
Carbon Monoxide	Yes		No
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HEALTH HAZARDS

“high levels of VOCs and fine particulate matter from Gasoline Powered Lawn and Garden Equipment are health risks for workers and the public”

US Environmental Protection Agency

“elevated risk for cardiovascular events associated with exposure to fine particulate matter ”

American Heart Association

“Benzene is known to cause cancer”

American Cancer Society

“ozone at those lower levels was associated with deaths from cardiovascular disease, strokes, and respiratory causes.”

American Lung Association

“A small increase in long-term exposure to PM2.5 leads to a large increase in the COVID-19 death rate.”

Harvard School of Public Health

ENVIRONMENTAL HAZARDS

Lawn and Garden Equipment in the US:

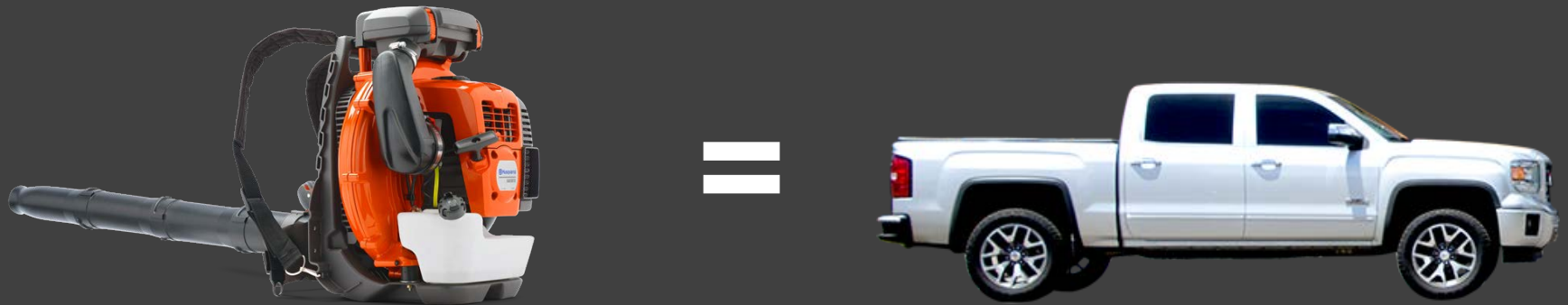
1.2 Billion Gallons of Gasoline per year

Millions of pounds of toxic waste to landfill:

- Air Filters
- Fuel Filters
- Oil Cans
- Oil and Gas Spills

CARBON EMISSIONS

A Gas Powered Leaf Blower used for a few hours each day produces as much CO₂e as an automobile



From: Stihl and Pro Tool Review – 0.46 gallons of gas per hour of operating Gas Backpack Leaf Blower
4 hours per day x 245 days per year = 6 Tons CO₂e/yr vs 5 – 7 for an average automobile

BATTERY POWERED BLOWERS ARE CHEAPER TO OPERATE



Gas Powered



Battery Powered

Fuel / hr* .46 gal gas + 1.2 oz oil
Fuel Cost \$ / Hour: **\$2.26**

0.550 kWh
\$0.08 *30X less*

Battery Back Pack Blowers are far cheaper to operate than Gas Blowers

From: Manufacturers website data and Online Tool Reviews - Echo, Stihl, Husqvarna, Makita, EGO, Oregon
Leaf Blower equipment costs are similar for battery and gas blowers excluding batteries
** Approximately \$500 for a battery with 1 hour run time plus charger. 2 Year Warranties are standard for all equipment and batteries

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2 Yr Fuel Cost @ 4 Hr / Day: **\$4,450**

\$150 *30X less*

2 Yr Maintenance Cost* **\$100**

\$0

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2 Yr Maintenance Cost*	\$100	\$0	
Total Battery Costs**	\$0	\$2,000	
Total 2yr Cost	\$4,550	\$2,150	<i>Less than 1/2 the cost</i>

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Battery Powered Leaf Blowers

Zero Air Pollution, Zero Toxic Solid Waste, Zero Fuel Spills

*Zero Carbon Emissions**

Zero maintenance

Plenty powerful to do the job

Far quieter than gas blowers

Far cheaper to operate

Available at any garden equipment retailer

* When charged with Renewable Energy which is available to everyone in Portland through PGE and Pacific Power Green Energy Plans



Gas Powered Leaf Blowers are Dangerous

Thank You!
quietcleanpdx.org