CURRENTS

The Robots Are Coming ... to Mow Your La

Gas-power yard equipment spews noise and pollutants. Newer models, using electricity, are quieter and greener, and might even manage themselves.

By Ellen Rosen

April 6, 2021

This article is part of our new series, Currents, which examines how rapid advances are transforming our lives.

Even before last winter's snow had fully melted, the roar of leaf blowers began to pun of many towns, renewing noise battles that had only intensified as more people work

Leaf blowers are not just loud. The small gas-power machines, subject to less-restrict regulation than cars and trucks, release large amounts of pollutants into the air.

But Jamie Banks, the president of Quiet Communities, a nonprofit based in Lincoln, not a one-machine issue. "If you just focus on leaf blowers, it trivializes the whole pro the very widespread use of all polluting, fossil-fuel-powered equipment that is at issu "And, of course, it's very noisy, too."

Ms. Banks, whose organization promotes the use of cleaner equipment to maintain gr was the primary author of a 2015 report for the Environmental Protection Agency on gas-power equipment.

To put the problem in perspective, according to California's Air Resources Board, ope commercial lawn mower for just one hour emits as much pollution as driving a Toyot 300 miles. For a commercial leaf blower, one hour of operation emits pollution comp driving a Camry about 1,100 miles.

Gasoline-power leaf blowers contribute to pollution and are loud, some so noisy that they can be dangerous, not just unpleasant. Arnd Wiegmann/Reuters

Change may be, well, in the air. Technological advancements, including equipment th on longer-lasting lithium batteries, are reducing emissions and lowering the noise lev blowers, lawn mowers and even chain saws. New and traditional manufacturers are o as well robotic equipment for the home and commercial markets.

And even after factoring in the emissions that result from the charging of equipment, operated equipment is greener, especially when the electricity is generated from rene resources, Ms. Banks said.

The market for all lawn care equipment shipped annually in the United States is appr billion, according to the Outdoor Power Equipment Institute, a trade organization ba Alexandria, Va. Most of it is bought by homeowners, and their choices are changing. I while gas-power mowers still dominate sales, “the speed at which battery-powered al gaining ground is notable,” said Grant Farnsworth, the president of the market resear Farnsworth Group. Within the last four years, sales of battery push mowers have incr

Any “sound above 45 dBA is likely to start having negative effects,” said John Medina associate professor at the University of Washington department of bioengineering. Le said in an email, “are potentially quite dangerous,” because when close to the ear they measured at 95 dBA.” A person standing 50 feet away is exposed to levels of 65-80 dB

For noise reduction alone, “robotic mowers are the biggest bang for the buck,” said D founder and president of the American Green Zone Alliance, or AGZA, a California-ba firm that is creating its own standards and certification for areas that move to emissio care. Like LEED certification for buildings, the AGZA designation will mean that the commercial area has achieved emission-free status in its green spaces.

Robotic mowers are more prevalent in Europe, where yards tend to be smaller. In the a few companies have begun to offer robotic services, according to Frank Rossi, an as professor at the Cornell University College of Agriculture and Life Sciences.

“Labor challenges” in the landscaping market are helping to bring about changes, said president and chief executive of the Outdoor Power Equipment Institute.

For example, a labor shortage first propelled the Langton Group, a landscaping comp Woodstock, Ill., to make the transition to emissions-free and quieter equipment abou

“I just couldn’t find enough people to hire, and I saw robotics as a way to solve my lab said Joe Langton, president of the company. “I began to realize that we not only saved helped the environment.”

Last year, working with Mr. Mabe of AGZA, they designated a 29-acre green zone in W which Mr. Mabe said was the first in the state. The zone comprises a large corporate c as an 11-acre group of townhouses.

Langton now has a fleet of 200 robotic mowers, each about 2 by about 2.5 feet and ju tall, operating in this zone. They charge on site, some conventionally through electric others by solar power. Like robotic vacuum cleaners, they can return to charge when finished their work (and can be shut down if the weather is bad).

Each robot covers 1.25 acres, constrained by an underground, signal-emitting wire sim used in an invisible dog fence. The family-run company largely relies on equipment m Husqvarna. a Swedish company in the forefront of green lawn technology.

A mowing robot from Husqvarna, a Swedish company. It developed its first solar-power robo mower in 1995. Soeren Stache/picture alliance, via Getty Images

And Mr. Langton said that using robots had not eliminated jobs but instead had chan of workers he hired. Now he needs people who can oversee the technology and also tr work on weeds — all with battery-power equipment.

Robotic mowers are expensive, which can deter homeowners. Costs can range from a $2,500, depending on the model. But over the life of the equipment, battery-power m ultimately save money, a 2017 analysis at the University of Arkansas found. Some co offering rebates when older mowers or blowers are traded in, Mr. Mabe said.

Among manufacturers that offer equipment, Husqvarna is well known, and there are companies, like EGO and Ambrogio, as well as Mean Green Products, which in Septe acquired by a division of Generac Holdings. Market stalwarts like Toro and DeWalt n battery-operated lawn care equipment.

The equipment is comparable in size to traditional mowers, said Joe Turoff, the chief officer for Chervon, North America EGO's parent company. Running time, depending the battery, is about 60 to 90 minutes, he said.

Those who care for their own yards are moving toward battery-operated blowers, trim edgers when purchasing new equipment, Mr. Farnsworth said, adding that roughly h purchased blowers and trimmers are battery powered.

The biggest hurdle may be the professional market, because the electric equipment n to handle, say, 10 hours of continuous use. Until there is a solution, he said, landscap laggards when compared to homeowners."