CHALLENGE 2025

THE FINAL REPORT

BATTERY-POWER, NOW CHARGING AHEAD.

EGO™
POWER BEYOND BELIEF™

CONTENTS.

INTRODUCTION.
ACCELERATING CHANGE.

Today, the world is aware of the potential dangers of fossil fuels – to our health, and our environment. It's important to do everything we can to change these outcomes and create a better future for everyone. At EGO, we strongly believed battery-powered outdoor power equipment had a big part to play in this, without increasing cost or compromising performance.

But while people wanted change, and while the advantages of battery-power were compelling, awareness was lacking and some negative perceptions remained, largely surrounding performance. This perhaps explains why many public bodies, professional gardeners and landscapers, and homeowners still use petrol-powered equipment. [Based on research conducted by EGO].

Our vision is to establish battery technology as the principal power source for outdoor power equipment, and we are committed to taking positive action to drive this change.

To accelerate progress five years ago, we launched Challenge 2025. Its objective was to educate and empower both domestic and professional users to make the switch from petrol-powered equipment, helping reduce emissions and noise, increase user comfort and safety, and lower the total cost of ownership. All of these things were achievable with the technology available in 2020 – but only with a change in mindset. Today, that technology is even more advanced and sophisticated, bringing a better future well within reach. This is reinforced by the EU which has already established guidelines on Green Public Procurement. In addition, the Climate Change Committee – an independent UK statutory body which advises the Government on reducing greenhouse gas emissions – updated its seventh Carbon Budget in February 2025. It stated that there are readily available alternatives to fossil-fuel powered lawnmowers that are 'better and more efficient'.

In this report, we review the actions and impact of Challenge 2025, along with progress towards our goals.

80%
AGREE THAT BATTERY POWER IS QUIET, SAFE, LOW MAINTENANCE AND ENVIRONMENTALLY FRIENDLY.

48%
OF PEOPLE ARE CONCERNED ABOUT AIR POLLUTION WHERE THEY LIVE.

11X
MORE CO EMITTED BY A PETROL LEAF BLOWER COMPARED TO A SMALL HATCHBACK.

84%
AGREES THAT EVERYBODY SHOULD HELP TO REDUCE POLLUTION.

50%
OF THE PETROL REQUIRED TO RUN A CAR NEEDED TO RUN A LEAF BLOWER.

33%
THINK PETROL-POWERED TOOLS HAVE A SIGNIFICANT IMPACT ON ENVIRONMENT.

EGO.
BUILDING A CLEANER, QUIETER, AND SAFER FUTURE.

In a world facing climate change and health issues associated with fossil fuels, it seems both illogical and unacceptable that petrol-powered tools should be used to improve our green spaces - especially when battery technology is now so advanced. The time for change is here, and as a world leader in cordless outdoor power technology, we're proud to be at the forefront of this revolution.

Inside and out, as a business, we are focussing on sustainability.

In our operations, we've invested in a 2-megawatt photo-voltaic power station and ground-source heating, air conditioning and water storage technologies to minimise our impact, reducing our carbon dioxide emissions by 2,500 tonnes each year. We also plant a tree for every EGO tool sold in the EMEA region and, in addition, for each tool that is registered for complimentary extended warranty.

And in terms of equipment, we've developed the world's most advanced and reliable tools to support professional and domestic users globally. All are powered by the EGO™ ARC Lithium™ battery. Benefitting from research and developments in the automotive industry and delivering the highest energy capacity of any battery in the sector, EGO™ represents the future, right now.

By 2020, we could see clear signs that the market was beginning to embrace battery-powered equipment, but we believed that adoption should be faster and stronger. Challenge 2025 was launched to accelerate this transformation and help create a cleaner, quieter, and safer future.

CHALLENGE 2025.
5 YEARS OF ACTION TO CHANGE PERCEPTION.

For Challenge 2025 to be effective, we needed a concerted and coordinated series of actions, each one supporting or promoting our core messages. Working with specialist partners, we built a powerful and thought-provoking campaign aimed at shaping opinion across the UK and Europe.

Independent research – understanding the market and current state of play
We commissioned a leading market research company to undertake a detailed survey of over 1200 outdoor power equipment users, exploring perceptions and attitudes in Europe's domestic gardening and professional landscaping sector. This revealed a commitment to sustainability and a real appetite for change.

Testing – underpinning the campaign with proven facts
Using independent testing specialists, we compared and evaluated the performance of battery and petrol-powered equipment on three key measures – noise, vibration, and emissions. In each case, battery wins out.

Freedom of Information requests to UK public bodies
We believe that many UK public bodies continue to use petrol-powered equipment to maintain their green spaces and 'clean air' zones. To understand the full picture, we made freedom of information requests to 40 local authorities– the start of a concerted effort to change this practice.

Educating the next generation and wider public
EGO produced an education pack to raise awareness among young children. To date, this has been downloaded by 172 UK schools. To highlight the issues of noise pollution caused by petrol-powered outdoor tools, we also developed a 'noisy neighbours' campaign featuring the views and opinions of residents in Birmingham's Clean Air Zones. We have also produced an online emissions calculator to help people measure the impact of the equipment they use. This has received national coverage, including in The Daily Express.

Being seen – in the press and online
Throughout Challenge 2025, we generated content to get our message out there, sending features, posts, podcasts, and press releases to audiences across Europe. This has received extensive press coverage including The Express, Independent, Financial Times and Service Dealer Magazine. And on socials our activity has reached over 7.5 Million users on Facebook, Twitter (now X), LinkedIn and Instagram.

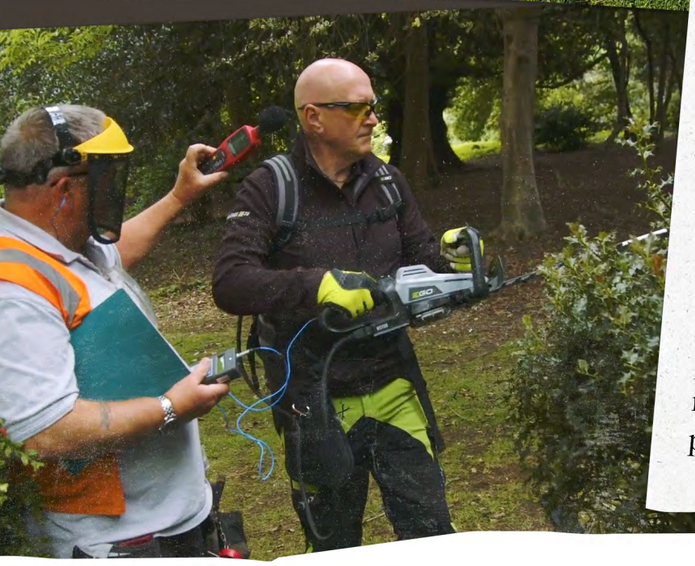
Why isn't the planet as healthy as our lawns?

TURF BUSINESS

Will battery tools solve all noise and vibration issues?

"At CJ Garden services, myself and all of the residents at many care homes that I look after have seen the benefits of running battery equipment. The benefits are low noise, low vibration and nicer to use. No time to warm up in the morning so you can be straight to work.

Curtis Molner, CJ Garden Services & Influencer



The benefits battery-powered tools are bringing to tree workers.

While the advances in battery-powered tools are proving [illegible] lack of exhaust fumes, in an en[illegible] the only

MORE MUST BE DONE ON GARDEN MACHINERY NOISE POLLUTION

The Telegraph

Petrol-powered leaf blowers guzzle petrol and contribute to pollution.

'Battery lawnmowers are better and more efficient than their fossil fuel equivalents'

Seventh Carbon Budget – The Climate Change Committee. Feb, 2025

EGO LAUNCHES MANIFESTO URGING USERS TO "GO GREEN"

Battery-powered outdoor machinery manufacturer Ego, are calling for a change to make battery-powered equipment the preferred choice over tools that "emit noxious fumes and damaging noise pollution" by 2025.

Could petrol tools be affecting the health of gardeners

Research done into the comparison of noise levels generated from petrol-powered tools and battery-powered tools reveals the negative side effects of prolonged exposure goes beyond hearing loss.

EGO survey: Gardeners concerned about pollution from petrol tools.

EGO, specialist in battery-powered garden tools, today announces the results of the report "Battery versus petrol - views and use".

EGO researched the use of tools and their vision on the environment among amateur and professional gardeners.

RESULTS SHOW SOME PETROL-POWERED TOOLS ARE UP TO 3 TIMES LOUDER THAN BATTERY ALTERNATIVES

Long-term exposure to high levels of noise and vibration can trigger various health problems, from hearing loss to cardiovascular troubles.

"Challenge 2025 is a fantastic initiative in which I believe sits at the heart of many landscape professionals.

Jay Rock, Influencer

DAILY EXPRESS

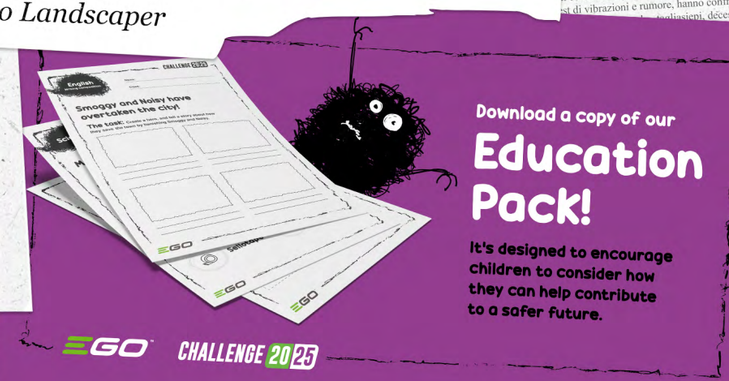
Petrol lawnmower ban: Call for action after 'unbelievable' damage done 'worse than cars!'

Report uncovers environmental impact of petrol tools.

Pro Landscaper

Una nuova ricerca rileva che l'inquinamento acustico nelle aree ve può essere dannosoper la nostra salu

La ricerca di EGO Power Plus nell'ambito della Challenge 2025 ha rilevato che l'inquinam dagli utensili per esterni alimentati a icolare quelli utilizzati nei giardini, supe ite di esposizione giornaliera al rumore dall' Ispettorato Nazionale del Lavoro esponendo gli utenti domestici, gli ad lienti a rischi causati dell'eccessivo stico emesso dalle loro attrezzature.



BATTERY V PETROL. PUT TO THE TEST.

COMPARING PERFORMANCE FOR PEOPLE AND THE PLANET.

Virtually everyone now accepts that burning fossil fuels contributes to climate change, which is why there's a global focus on cutting emissions. It's also well-known that these emissions also have the potential to seriously damage human health.

Both of these factors reinforce the shift towards safer and more sustainable energy sources such as battery-power, especially if the same (or even better) performance can be achieved. And doubly so if the financial benefits are also compelling.

But how significant are these issues in the world of garden and grounds maintenance? And how can we quantify the difference in performance between petrol and battery-powered equipment?

To answer these questions as part of Challenge 2025, we set about comparing EGO's equipment with petrol-powered equivalents on four key measures – noise, vibration, emissions, and cost of use. The technical research was carried out by leading UK independent bodies: Earlsmere, an on-site vibration and noise testing organisation, and UTAC, a specialist in emissions testing. Financial cost estimates were based on a hedge trimmer, line trimmer and leaf blower from EGO's PRO X range alongside their petrol-powered equivalents.

THE RESULTS ARE ILLUMINATING.

A PETROL LINE TRIMMER IS
3X LOUDER
THAN BATTERY POWERED

NOISE.
THE EVIDENCE SPEAKS VOLUMES.

Excessive noise isn't just distressing for people in the local vicinity, it's also a major cause of long-term health problems, ranging from tinnitus and loss of hearing through to metabolic and cardiovascular issues.[1] Unsurprisingly, therefore, legislation has been developed to establish safe limits. For example, the EU's Physical Agents (Noise) Directive 2003 sets a maximum exposure limit of 87dB in working environments.

However, these are recommendations only, and petrol-powered equipment often exceeds this guidance. Sound levels of 100dB(A) have been recorded in some petrol-powered line trimmers, which is comparable to standing just 300 metres away from a jet taking off.

As the responsibility for minimising risk and ensuring these guidelines are met lies with employers, most provide hearing protectors and training. The more diligent will also actively monitor noise levels and provide regular hearing tests for employees. All of this is cost and resource-intensive and doesn't address the actual cause. A simple switch to battery-powered equipment does, all but eliminating the 'noise' problem.

Independent tests carried out by Earlsmere show that EGO's tools consistently produce significantly less noise than their petrol-powered counterparts.

Noise levels in EGO's LM1700E-SP mower were recorded at 15% below the recommended upper limit. The figure for a petrol-powered mower of equivalent size was 30% above the limit.[2]

Similar results were recorded for line trimmers, a notoriously noisy piece of equipment. While both battery and petrol-powered equipment exceeded the upper limit, EGO's BCX3800 strimmer did so by just 1dBA. The petrol line trimmer was up to 3 times louder than this, representing a significant physical difference to the human ear.[3]

One other noise related factor is worth mentioning. Workers can operate machinery at 85dBA for approximately 3 hours longer than at 100dBA before a formal risk assessment is required. So quieter machinery can also lead to increased worker productivity.

In terms of user safety and efficiency, therefore, battery-powered equipment makes sound business sense, which is why sales are on the increase across Europe (see page 18).

[1] World Health Organisation, 2022, p.1
[2] EGO, Environmental Ethos: https://egopowerplus.co.uk/about-ego/environmental-ethos
[3] EGO, Environmental Ethos: https://egopowerplus.co.uk/about-ego/environmental-ethos

VIBRATION.
PETROL IS ON SHAKY GROUND.

> PETROL-POWERED EQUIPMENT VIBRATES MORE THAN ITS BATTERY-POWERED COUNTERPART, AND THEREFORE PRESENTS MORE RISK TO USERS.

BUSINESSES LOSE
300,000
WORKING DAYS EACH YEAR THROUGH VIBRATION-RELATED DISABILITY

Because of their nature, all power tools – battery and electric – vibrate, and vibration is the cause of many well-known health conditions including RSI, Carpal Tunnel Syndrome and Hand Arm Vibration (HAV). In severe cases, HAV can lead to muscle weakness and debilitating long-term injuries such as 'Vibration White Finger'. These cause serious pain to workers, while employers have to carry the cost of healthcare and lost productivity. These costs are significant, in the UK, for example, the HSE estimates that businesses lose some 300,000 working days each year through vibration-related disability.

As with noise, there are guidelines and directives –The Physical Agents (Vibration) Directive refers to the European Union Direction 2002/44/EU, which sets minimum health and safety requirements to protect workers from risks related to exposure to mechanical vibration at work. Essentially, it outlines the legal standard for managing vibration exposure in the workplace across the EU.

The less equipment vibrates therefore, the better it is for all parties. While the individual performance of equipment varies by brand, it's a truism that 'like for like', petrol-powered equipment vibrates more than its battery-powered counterpart, and therefore presents more risk to users.

Earlsmere's independent tests bear this out. Battery-powered tools – such as in the EGO Power+ PRO X range - have fewer moving parts than equivalent petrol-powered equipment. Across the range this ensures a level of vibration well below the Exposure Limit Value (ELV) specified by regulations. In many pieces of equipment, it's actually under the 2.5m/s2 Exposure Action Value (EAV) limit. They measured the 'real-life' levels of noise and vibration in five different pieces of equipment - rotary mowers, hedge trimmers, line trimmers, leaf blowers and chainsaws. For each category, one petrol and one EGO battery tool were tested, each equivalent in terms of power, performance, and cost.

In the interests of worker safety and commercial safeguarding, it's therefore clearly important to minimise vibration as much as possible. Battery-powered equipment provides a quick and easy solution.

EMISSIONS.
THE PROOF IS TOXIC.

Of the many toxic emissions associated with equipment powered by fossil fuels, the most notable are carbon monoxide (CO) and nitrogen oxide (NOx). These have a serious and debilitating impact on soils, on climate change, and on people, causing illnesses including inflammation of the airways and a range of respiratory infections.

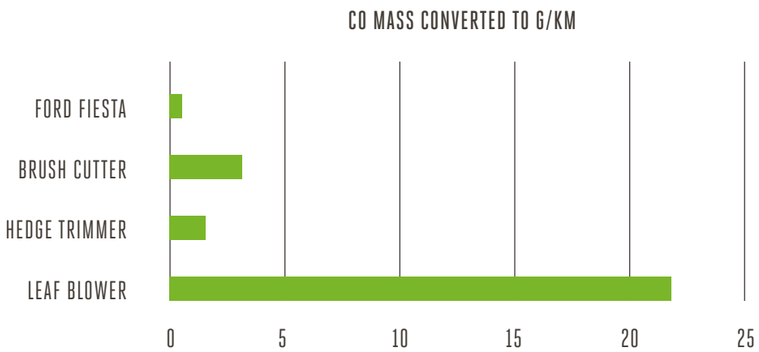
They're bad news, which is why automotive vehicle manufacturers are either investing in electric, or new technologies to minimise emissions. For example, the cleanest models now generate less than 0.5g/km of carbon monoxide, well below levels set by current regulations.

Unfortunately, petrol-powered grounds maintenance equipment doesn't benefit from anything like the same levels of legislation, so can't achieve the same type of performance. Instead, it's left to battery technology to lead the charge for innovation in the sector, and as a technology leader and global manufacturer, EGO is in the vanguard. Harnessing one of the industry's most powerful and reliable batteries, EGO's equipment – including its PRO X range – all produce zero emissions in use, resulting in an immediate win for people's health and the environment.
An additional, and recent win, is that electricity providers now provide green tariffs, meaning that battery charging can also be completed in an environmentally compliant way.

This is illustrated perfectly in EGO's independent research by UTAC, a leading specialist in emissions testing. Reviewing three petrol-powered tools – a leaf blower, hedge trimmer and brush cutter – they discovered that all three each exceeded the 0.5g/km figure for carbon monoxide. Specifically, the hedge trimmer was measured at 1.56g/km, the leaf blower at a worrying 21.73g/k. Emissions of NOx were also far higher than cars, which have been recorded at 0.08g NOx/km. In contrast, the brush cutter was recorded with NOx levels at 0.33g/km.

	CO MASS MG/S	CONVERTED TO G/KM
LEAF BLOWER	301.8	21.73
BRUSH CUTTER	42.6	3.07
HEDGE TRIMMER	21.6	1.56
2018 FORD FIESTA		〈0.5

A SIMILAR STUDY OF 21 SEPARATE ITEMS OF PETROL-POWERED OUTDOOR EQUIPMENT ACROSS EUROPE REVEALED THAT NINE FAILED TO ACHIEVE EU LIMIT VALUES FOR HC+NOX (HYDROCARBONS AND CARBON MONOXIDE), WHILE THREE EXCEEDED THE LIMIT VALUE FOR CO[4].



This is prompting change, with several European cities (including Edinburgh and Berlin) banning petrol-powered leaf blowers, while over 100 US cities have followed suit with total or partial prohibition. Despite strong resistance in some areas, it seems almost inevitable that grounds maintenance equipment will transition almost fully to electric.

[4] Exhaust emissions from hand held equipment- Measuring. Deutsche Umwelthilfe e.V (Environmental Action Germany, DUH 2017).

COST OF USE.
THE BEGINNING OF FUTURE CHANGE.

In grounds maintenance, margins are tight and cost matters. As battery-powered equipment demands greater up-front investment, many businesses remain loyal to petrol, even if they understand the associated health and environmental issues.

However, this ignores the true financial reality. Battery-powered equipment delivers a rapid return on investment and will drive down the overall total cost of ownership of grounds maintenance equipment (Fig. 1).

These savings are explained by several factors which quickly add up. Electricity is cheaper than petrol, so battery-powered equipment costs less to run. With fewer moving parts the machinery is more reliable, with less downtime and servicing.

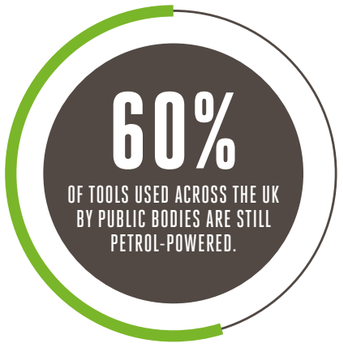
Over and above these direct costs, workers can use lighter battery-powered equipment for longer, increasing overall productivity. They're also less likely to take time off from vibration or noise-related issues.
And because it's quieter and environmentally friendly, battery-powered equipment can be used in areas where petrol is either prohibited or restricted, opening the possibility for extended hours or potential for new contracts.

The financial case for battery-power is strong.

Fig. 1

	PETROL	PRO X RANGE	
INITIAL OUTLAY YEAR 1			
	TOOLS £1.657.00	TOOLS £1.027.00	
	SERVICING £310.00	BATTERIES & CHARGERS £1.052.98	
	FUEL £1.129.18	ELECTRICITY £98.60	
COST YEAR 1	£2.786.18 Inc purchase of tools	£2.178.58 Inc purchase of tools	£607.60 Year 1 saving
COST YEAR 2	£1.516.37 Fuel and servicing	£108.80 Recharge cost only	£1.407.57 Year 2 saving
COST YEAR 3	£1.598.92 Fuel and servicing	£147.90 Recharge cost only	£1.451.02 Year 3 saving
COST YEAR 4	£1.710.89 Fuel and servicing	£168.30 Recharge cost only	£1.542.59 Year 4 saving
COST YEAR 5	£1.850.13 Fuel and servicing	£190.40 Recharge cost only	£1.659.73 Year 5 saving
TOTAL COST OF OWNERSHIP	£9,462.49	£2.793.98	SAVING AT YEAR 5 BY INVESTING IN CORDLESS £6,668.51

A CLEAN START TO CLEANER AIR?



Whether they're a commercial organisation or a homeowner, everyone using outdoor equipment has an impact on the environment and on people's well-being. At EGO, we're committed to ensuring this impact is positive – and that people make the change to battery-powered technology.

Though we've made headway through Challenge 2025, far more needs to be done, and nowhere is this more evident than in the case of Clean Air Zones in UK cities.

These zones, and many like them across Europe, are designated 'clean' by local authorities, who are responsible for maintaining standards. However, Freedom of Information Requests by EGO reveal that many continue to exclusively use petrol-powered tools to maintain their outdoor spaces. These bodies include Birmingham City Council and numerous London boroughs. In fact, our research reveals that 60% of tools used across the UK by public bodies are still petrol-powered.

There are, however, positive signs of change. In London, the Royal Borough of Kensington and Chelsea has transitioned to **100%** use of battery-powered equipment. London Brent has **90%** adoption, and Sheffield has reached **85%.**

These authorities are showing that with will and commitment, it's possible to provide safer and cleaner spaces with less noise and pollution, and minimum harm to people or the environment.

EGO's expertise and equipment is supporting local authorities and businesses to make the switch to battery power, adding social, environmental, and economic value to their work.

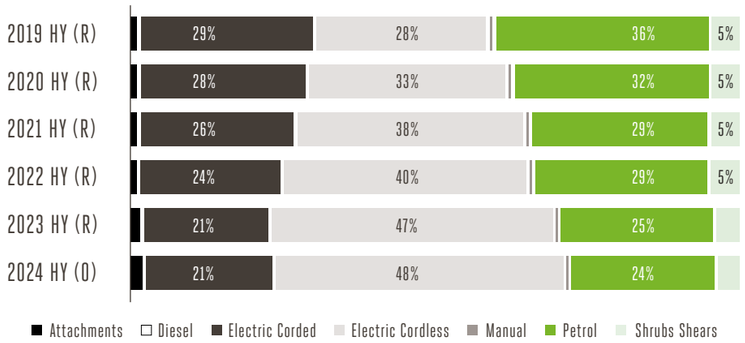
> FREEDOM OF INFORMATION REQUESTS BY EGO REVEAL THAT MANY LOCAL AUTHORITIES CONTINUE TO EXCLUSIVELY USE PETROL-POWERED TOOLS TO MAINTAIN THEIR OUTDOOR SPACES.

THE DOMINANCE OF BATTERY TECHNOLOGY.
ACHIEVING OUR VISION.

Committed to a greener future, our vision was to see battery technology established as the principal power source for outdoor power equipment by 2025. Sales figures and statistics gathered by The European Garden Machinery Industry Federation (EGMF) show this aim has been reached

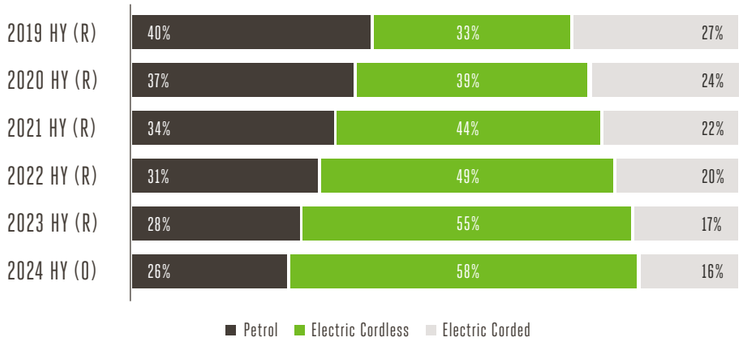
BETWEEN 2019 AND 2024, THE PERCENTAGE OF PETROL-POWERED EQUIPMENT IN USE ACROSS EUROPE FELL FROM 36% TO 24%. ELECTRIC CORDED EQUIPMENT FOLLOWED THE SAME TREND, FALLING FROM 29% IN 2019 TO JUST 21% IN 2024. IN SHARP CONTRAST, ELECTRIC CORDLESS EQUIPMENT ALMOST DOUBLED IN USE, RISING FROM 28% TO 48% IN THE SAME PERIOD.

DRIVE TYPES IN %



THIS IS MIRRORED EXACTLY IN SALES OF NEW EQUIPMENT, WITH ELECTRIC CORDLESS RISING FROM 33% TO 58%, AND BOTH PETROL AND ELECTRIC FALLING - FROM 40% TO 26% AND 27% TO 16% RESPECTIVELY.

UNIT SALES BY DRIVE TYPES



Progress is constant and encouraging, with a clear and significant shift towards battery-power.

THE END OF CHALLENGE 2025.
THE BEGINNING OF FUTURE CHANGE.

EGO's Challenge 2025 is a story that has grown in the telling, helping shape and influence the grounds maintenance sector.

The testing we've done demonstrates the disadvantages of petrol and the attractions of battery. Our research into attitudes reveals a desire for change. The assets we've created, and our publicity is influencing minds, and we're seeing positive change on our watch. Today, reflecting our vision, global sales show that battery-power is indeed the principal power source for outdoor grounds maintenance equipment. With influential organisations such as the UK's Climate Change Committee (CCC) now advocating the phasing out of petrol and diesel-powered lawnmowers as part of its recommendations to achieve net zero by 2050, it's clear that this trend is set to continue. Indeed, a total ban on all fossil-powered grounds maintenance equipment could well become a reality. While we can't claim Challenge 2025 has shaped the CCC's thinking, we are of the same mind and our approach has clearly been vindicated.

Quite simply, battery-powered equipment takes less toll of your body, of your hearing, of your wallet, and of the environment. And as the world's leading supplier of battery-powered equipment, EGO is in the vanguard of innovation and development.

Benefiting from research and advances in technology, the EGO™ ARC Lithium™ battery represents the world's highest energy capacity at 420 watt-hours (Wh), delivering more torque and power than any other portable battery to match and even exceed petrol-powered equipment. Development is ongoing, with new advances including sequential and in-day charging systems to deliver more efficient and mobile charging, including in vans and offsite to ensure power continuity in even the most remote areas.

This is available to professional users in our new and extensive PRO X series of equipment, and to homeowners in our Lifestyle range, helping everyone achieve great results at less cost – to themselves and the environment.

AS EGO'S CHALLENGE 2025 COMES TO A SUCCESSFUL END, OUR CHALLENGE TO YOU IS SIMPLE: TO ENSURE IT'S JUST THE BEGINNING OF A CLEANER, QUIETER, AND SAFER FUTURE FOR EVERYONE.

EGOPOWERPLUS.CO.UK