

Electric Lawn Care Case Study Guide

A reference guide for service companies and large property owners looking to transition to electric lawn care.

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City of Ann Arbor Office of
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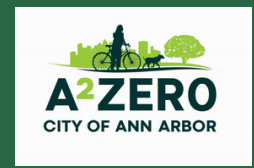
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In December 2023, Ann Arbor City Council passed an ordinance with new restrictions on the use of gas-powered leaf blowers within Ann Arbor city limits. The ordinance states that, beginning in 2024, the use of gas-powered leaf blowers will be prohibited in Ann Arbor from June 1st to September 30th. Beginning on January 1st, 2028, the use of gas-powered leaf blowers will be prohibited at all times in Ann Arbor.

This ordinance was created not only to promote the City's sustainability goals by reducing greenhouse gas emissions, but also to protect the health and welfare of Ann Arbor residents. Gas-powered lawn care equipment, such as leaf blowers, releases harmful pollutants including carbon monoxide, nitrogen oxide, volatile organic compounds (VOCs) like formaldehyde, and fine particulates. Exposure to these pollutants increases the risk of cardiovascular disease, respiratory disease, cancer, and cognitive impairment. Gas lawn care equipment can also operate at noise levels as loud as 100 decibels, which can cause hearing damage and stress from noise pollution.

Electric lawn care equipment is an excellent alternative to gas-powered lawn care equipment. Electric lawn care equipment produces no harmful air pollutants or environmental contamination, creates significantly less noise and greenhouse gas emissions, has much lower operational costs, and is lighter, easier to start, and requires less maintenance.

The purpose of this case study document is to showcase the strategies that lawn care service companies and large property owners have used to successfully transition to electric lawn care. Learning about these strategies will provide an opportunity for those in the community looking to transition some or all of their lawn care equipment to electric to learn from others how to make that transition successful.

There are many different ways to implement electric lawn care. Ideal equipment brand and charging options will be situation dependent. That said, there are some guidelines that may be useful to follow.

Most major lawn care equipment manufacturers produce electric equipment. In many cases, it makes sense to use the same brand for most, if not all, electric equipment that will be purchased now or in the future. This will ensure that batteries can be interchanged between different pieces of equipment, which can be a crucial piece to managing charging.

In terms of charging strategies, many different options exist. These include plugging equipment into available outdoor power outlets, creating a charging shed to power equipment overnight, purchasing a portable charger, purchasing a charging trailer, or outfitting an existing trailer for charging purposes. Just as with any piece of equipment, it is important to refer to manufacturer safety information to ensure proper storage guidelines are followed. Many of these options are highlighted in the following case studies, and each of these options should be explored to determine the best strategy for a specific situation.

Finally, electric leaf blower batteries should be recycled if possible. In Ann Arbor, lead acid batteries and lithium-ion batteries can be taken to the HHW Center or Recycle Ann Arbor. Lead acid batteries can also be taken to major scrap yards. If a battery is damaged or leaking, contact your local solid waste division (734-222-3950 for Washtenaw County).

The following case studies showcase the equipment and charging strategies that lawn care service companies and large property owners in Ann Arbor have used to successfully transition to electric lawn care. These case studies are meant to act as a reference and provide an opportunity for individuals and companies to learn from others. Is it up to the individual or company to determine the best strategy for their situation.

Case Study 1: Oxford Companies and A&H Lawn Service



Overview

Oxford Companies is Ann Arbor’s largest commercial property management organization and has been in the area for over 25 years. For the last 7 years, their goal has been to pave the way for others to transition to more sustainable practices. In line with that goal, in 2022, they began coordinating with their partner, A&H Lawn Service, to determine a strategy to transition to all electric lawn care equipment. Together, they established a goal of transitioning to 100% electric lawn care equipment by 2025.



Oxford Companies and A&H Lawn Service Battery-Operated Lawn Mower

Sustainable Lawn Care Strategy, Tools, and Equipment

As of May 2024, Oxford Companies has worked with A&H Lawn Service to transition almost 70% of their portfolio, which contains properties ranging from one quarter acre to twelve acres, to electric lawn care. Their equipment includes battery-powered backpack leaf blowers, handheld leaf

Case Study 1: Oxford Companies and A&H Lawn Service



blowers, lawn mowers, string trimmers, and edgers, and their equipment brands include Makita and Greenworks.

To maintain batteries, A&H Lawn Service built a structure dedicated to electric equipment storage and charging. Additionally, they purchased a trailer, installed solar panels on it, and outfitted it for equipment charging. This trailer houses two to three batteries for each piece of equipment, allowing their lawn care team to switch out batteries throughout the day. They also purchased deep cycle batteries and an inverter to charge hand-held equipment while on job sites.



Oxford Companies and A&H Lawn Service Charging Trailer

Recommendations for Transitioning to Sustainable Lawn Care

For those looking to transition to electric leaf blowers, Oxford Companies and A&H Lawn Service recommends researching weight, cost, run times, and battery requirements before deciding on a brand. For those

Case Study 1: Oxford Companies and A&H Lawn Service



considering making the transition to fully electric lawn care, Oxford Companies and A&H Lawn Service says, “Just do it!”. Start off with doing some research and note that picking one brand will make the integration of your equipment more seamless. During this process, work on understanding your needs. What do you truly need out of your equipment and what is overkill? Next, ensure you’re planning for the space, charging infrastructure, and upfront costs required for the equipment. If you’re planning on designing your own charging trailer, choose an enclosed trailer that has enough space for your needs, and ensure the vehicle you will use to pull the trailer can handle the weight. Finally, Oxford Companies and A&H Lawn Service says to remember to recognize that electric equipment operates differently, and as with anything new, there will be a learning curve.

Overview

NetZero Tree & Lawn Care is an Ann Arbor based tree and lawn care service company that serves both commercial and residential clients. In 2023, they transitioned all of their equipment to electric and have since been proud to offer their services using all electric equipment and sustainable practices.

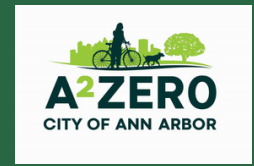
Sustainable Lawn Care Strategy, Tools, and Equipment

NetZero Tree & Lawn Care primarily uses Ego Power electric equipment for their chainsaws, backpack leaf blowers, handheld leaf blowers, pole saws, and lawn mowers. They also use electric aerial lifts and tree climbers for higher canopy tree work, and much of their landscaping is done using hand tools. For their tree care equipment, they have seen a return on investment of 405%.



NetZero Tree and Lawn Care Chainsaw, Lawn Mower, and Backpack Leaf Blower

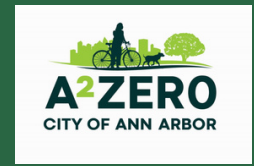
Maintaining charged batteries is one of the key challenges of using all electric equipment. By using primarily one brand of electric equipment, NetZero Tree & Lawn Care tackles this challenge in part through their



ability to switch out batteries between different pieces of equipment. Additionally, at residential sites, they can charge their equipment on site when needed using outdoor power outlets. In the future, they plan to purchase a covered trailer with solar panels to house and charge their batteries. This trailer will be pulled by an electric truck powered by those same solar panels, enabling them to work completely off the grid.

Recommendations for Transitioning to Sustainable Lawn Care

For those who are new to electric, because most major lawn care equipment companies produce electric equipment, NetZero Tree & Lawn Care recommends using a brand you trust. Change can be hard, but electric equipment is just as good as gas equipment, and it's important to avoid only focusing on the negatives of change and remember to consider the benefits as well. For those thinking of fully transitioning their equipment to electric, NetZero Tree & Lawn Care says that making a reasonable goal, whether that goal is to fully transition in 5 years or 20 years, is progress, and that goal is achievable if you truly want to make a difference.



Overview

Eco Lawns is a lawn care and landscaping service company based in Ann Arbor, servicing residential and commercial customers. With eight crews operating throughout the region, they have successfully started transitioning their handheld equipment to electric. Looking ahead, they plan to adopt even more battery-powered tools as part of their sustainability efforts.

Sustainable Lawn Care Strategy, Tools, and Equipment

Eco Lawns incorporates electric equipment in various facets of their lawn care and landscaping services. This includes electric leaf blowers, weed whips (string trimmers), edgers, hedge trimmers, chainsaws, push mowers, and electric robotic mowing services. All equipment is Kress brand, and these tools are utilized on properties ranging from small residential lots of 5,000 square feet to larger commercial spaces spanning several acres.

Eco Lawns expects to recoup its investment in electric equipment within two years thanks to significantly reduced fuel and maintenance costs. Battery-powered tools require fewer repairs and no gasoline, offering long-term savings. Kress also offers a 3-year warranty on equipment and 6-year warranty on batteries.

To maintain consistent power on the job, Eco Lawns relies on Kress CyberTank chargers, which are capable of fully recharging batteries in 8 to 15 minutes. With each crew equipped with a CyberTank charger and 2 to 4 batteries, they can recharge throughout the day, ensuring productivity remains uninterrupted.



Eco Lawns Battery Operated Rig With CyberTank and Equipment

Recommendations for Transitioning to Sustainable Lawn Care

Eco Lawns has several recommendations for transitioning to sustainable lawn care, including:

- **Test noise levels:** One of the major benefits of electric lawn care equipment is the lower noise level compared to gas-powered tools. However, some may find the sound of electric leaf blowers slightly different. Don't be put off by the variation in tone or pitch—it's quieter and less disruptive for residential neighborhoods.
- **Use available ROI calculators:** Many equipment manufacturers, including Kress, offer return on investment (ROI) calculators to help determine how quickly you can expect a return on investment. By inputting company-specific details, such as current fuel costs, maintenance expenses, and equipment usage, you can get a realistic view of how much you stand to save by going electric.
- **Start with high-impact equipment:** If transitioning your entire fleet at once isn't feasible, start by replacing high-maintenance or frequently

used gas-powered tools. Leaf blowers and trimmers are good entry points due to their frequent use and fast return on investment.

- Consider financing options: Many equipment manufacturers, including Kress, can provide flexible financing solutions for contractors. Monthly payments on electric equipment can often be lower than the fuel and upkeep costs for traditional gas-powered tools, meaning you can begin saving money immediately while paying off the equipment.
- Ensure charging infrastructure: Make sure each crew has access to fast chargers, such as the Kress CyberTank, which allows multiple charges throughout the day. This ensures no downtime during jobs and prevents the need to carry numerous backup batteries.
- Emphasize environmental impact: Electric equipment dramatically reduces emissions and noise pollution, making it an excellent choice for environmentally conscious clients, especially in cities like Ann Arbor that emphasize sustainability.

Eco Lawns' successful transition to battery-powered equipment demonstrates the potential for sustainable lawn care. By reducing fuel costs, lowering maintenance, and embracing innovative technologies, you too can help pave the way for more efficient, eco-friendly landscaping services.



This document was developed by the City of Ann Arbor Office of Sustainability and Innovations. To learn more about our work and as well as our plan to achieve a just transition to community-wide carbon neutrality by 2030, visit a2zero.org.