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Q&A: New England Botanic Garden goes electric



PHOTO | COURTESY OF NEW ENGLAND BOTANIC GARDEN

Mark Richardson, director of horticulture of New England Botanic Garden at Tower Hill, in Boylston

By Brad Kane

On Nov. 3, New England Botanic Garden was honored as the first botanic garden in the nation to be certified a Green Zone by the American Green Zone Alliance, as the Boylston garden is now performing all routine maintenance with electric lawn and garden equipment.

Why did the botanic garden switch to all-electric equipment?

Traditionally, the landscape industry uses a lot of fossil fuel-burning equipment: lawn mowers, trimmers, leaf blowers, and even snow blowers. As an environmentally-facing organization, we wanted to change that. As someone who has worked in the field for a long time, I have worked

on all sorts of equipment, and it's not healthy for your employees to be constantly breathing in the exhaust from those burning fossil fuels.

We started making the switch to electric back in 2019. Up until five years ago, the electric equipment that was available was too big and bulky. Electric equipment is important for the health of your employees, but no one benefits if the equipment is too burdensome to use and causes back problems and other bodily issues.

Now, the electric equipment available is ergonomic, is the right size, and has enough battery life to support our operations.

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Mark Richardson

Director of horticulture

New England Botanic Garden at Tower Hill, in Boylston

Founded: 1986, officially dedicated

Employees: 80

Acreage: 182

Richardson's age: 44

Residence: Uxbridge

Birthplace: Willimantic, Conn.

Education: Bachelor's degree in urban horticulture from the University of Rhode Island; master's degree in public horticulture from University of Delaware

Where did you start?

The first piece of electric equipment we bought was our lawn mower. It worked so well we started updating all our equipment, including leaf blowers, string trimmers, and chainsaws.

In 2019-2020, we updated our strategic plan, which – for a nonprofit – is basically a three-to-five year outlook for what we plan to do. That baked the switch to electric into the organization's plans.

Was the transition difficult?

It's pretty complicated. You hear this same thing from people who switch to electric vehicles, which is you want to make sure your car has enough battery to make your commute every day. For us, when we use a lawn mower all day, we want to make sure we have enough battery life to do the work we need.

Battery technology has come a long way, but it's not as quick as fueling up with gas. The mower we bought has a reliable six-hour runtime and sometimes even longer. That was perfect for us, as it gave us enough time to do what we needed it to do, and then come back the next day, as it does take 12 hours to charge.

What's easier is the smaller, handheld power tools. They all run on the same batteries, so you can swap out the batteries whenever you need. There's also backpack versions of equipment, where you can have a charge of up to six hours.

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Does the botanic garden get its power from the main grid?

We are part of a municipal light district from the Town of Boylston. However, we soon will be powering all of our electric equipment with the power of the sun.

We are starting a \$300,000 project to replace the roof and put solar panels on the barn where we store the equipment. We received \$112,000 from the Massachusetts Cultural Coalition Cultural Facilities Fund to help fund the project.

Solar will cover 100% of the electric needs for the barn and the equipment. We will probably be able to produce more power than we actually need. In addition to the panels, we will install a battery system, and hopefully we can take that building entirely off the grid.

What's next for your transition to electric?

We're pretty proud of becoming the first Green Zone-certified botanic garden in the country. We have made the commitment to transition all of our regular landscape equipment to electric, and we are looking to go beyond that.

In the fall, we have a three-week period where we have to use the more powerful blowers than run on fossil fuels. The electric tools just quite can't handle a New England fall yet, but soon we think we'll be able to phase out to more environmentally friendly equipment, too.

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How does all of this align with the garden's mission?

Our mission is really about connecting people with plants, and helping make changes in their lives. We hope to inspire people to make smarter, climate-conscious decisions when managing their own piece of land at home.

We really enjoy talking to people about our electric equipment. The mower stands out, in particular, and people ask all the time about this large piece of green equipment that moves efficiently and is very quiet.

This interview was conducted and edited for length and clarity by WBJ Editor Brad Kane.



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