

CASE Unveils “Project Zeus” — the all-new 580 EV — the Industry’s First Fully Electric Backhoe Loader

Two units to be delivered in Q1/Q2 2020; fully electric backhoe loader will significantly lower daily operating costs, produce zero emissions, reduce maintenance demands and satisfy local/project-based incentives for working with electric equipment/vehicles.

Racine, Wis., March 10, 2020

[CASE Construction Equipment](#) introduces “Project Zeus” — the 580 EV (Electric Vehicle), the construction industry’s first fully electric backhoe loader. The power and performance of the 580 EV is equivalent to other diesel-powered backhoes in the CASE product line and provides considerably lower daily operating costs while also producing zero emissions — a motivating factor for utility and government contractors incentivized to work with equipment that leverages alternative fuels and lowers emissions.

City governments and municipalities will also benefit from the elimination of emissions for working in urban environments and close to other buildings/people, as well as the reduced noise generated by the equipment.

Two units have already been sold to utilities in the United States — NYSEG and RG&E, AVANGRID companies, and National Grid. CASE has the capability to produce additional units throughout 2020 before ramping up production to meet greater demand in following years.

“CASE built the very first factory-integrated backhoe loader in 1957 and has been at the forefront of backhoe innovation,” says Leandro Lecheta, head of construction equipment — North America, CNH Industrial. “The 580 EV is a significant step forward in our commitment to sustainability, the evolution of earthmoving equipment and truly practical innovation that drives real savings and competitive advantages for backhoe owners.”

“The backhoe loader is perfectly suited for electrification as the varied use cycles, from heavy to light work, provide an excellent opportunity to convert wasted diesel engine hours into zero consumption battery time — yet provide the operator with instantaneous torque response when needed,” says Eric Zieser, director — global compact equipment product line, CASE. “At low idle a diesel engine has reduced torque and requires time for the engine to ramp up to meet the load demands. Electric motors, on the other hand, have instantaneous torque and peak torque available at every operating speed.”

The 580 EV is the second major alternative-powered machine introduced by CASE — the manufacturer rolled out the FPT Industrial methane-powered concept wheel loader ProjectTETRA at Bauma 2019. Electrification was performed in conjunction with [Green Machine Equipment, Inc.](#) and [Moog Inc.](#), and with direct input from utilities and other businesses focused on converting significant portions of their fleets to fully electric backhoes. CASE also partnered with [Michelin®](#) to outfit the first-of-its-kind machine with specialized MICHELIN CrossGrip tires for even greater efficiency and handling.

Electrification Ideal for Utilities, Urban Environments

The 580 EV is powered by a 480-volt, 90-kilowatt-hour lithium-ion battery pack that can be charged by any 220-volt/three-phase connection. While applications will vary, each charge will support most common eight-hour workdays. The battery separately powers the drivetrain and hydraulic motors, resulting in hydraulic breakout forces equal to diesel-powered machines and improved performance during simultaneous loader and drivetrain operation.

Utilities, utility contractors, as well as government and public works operations, are well suited for the 580 EV as they generally have initiatives aimed at lowering emissions, reducing noise in public workspaces, and finding new ways to work within budgets. Contractors who bid work in states where even greater regulations are in place — such as New York, California and Florida — may also benefit from deploying electric backhoes in their fleet. Many contractors in these sectors either road or trailer these machines back to a central shop or yard at the end of the day, making it easy to plug into existing electrical infrastructure, or to develop charging stations in a controlled yard. Utilities who operate their own backhoe fleets can power each machine off of the electricity they generate, essentially operating the machine at cost.

Sustainable for Budgets and the Environment

The 580 EV operates with zero emissions — lowering the total carbon footprint for its owners. These are important environmental considerations, but the new backhoe also helps improve fiscal sustainability.

- While every application will be different based on its workload, it is estimated that the 580 EV could save fleets as much as 90 percent in annual vehicle service and maintenance costs when taking into account the reduction/elimination of diesel, engine oil, diesel exhaust fluid, regular preventive maintenance and long-term engine upkeep/maintenance (and the associated labor rates and time savings).
- Some utilities and contractors are incentivized to deploy electric equipment and vehicles in their fleets, providing even greater financial benefit and further lowering the total cost of ownership.
- Operating electric construction equipment may make contractors eligible for work they may have otherwise been unable to bid on, expanding their business opportunities and allowing them to win more work each year.
- While the 580 EV will be sold at a higher initial price than diesel-powered backhoe loaders, it is estimated that average fleets will see a payback on that premium in roughly five years. All savings achieved after that will go to improve the bottom line and continue to lower the operation's carbon footprint.

Each 580 EV comes standard with CASE SiteWatch™ telematics for additional monitoring and management of machine performance and utilization.

Historic CASE Backhoe Performance — Improved Operating Environment

While the new 580 EV is electrified, it retains many of the hallmark features that contractors expect from CASE backhoe loaders. It retains the precision and efficiency of diesel-powered CASE backhoes with features such as ProControl, which allows for extremely precise boom movement and placement, as well as Comfort Steer, which significantly improves steering while working in tight quarters or in truck loading

operations. The machine's cab is spacious with large windows that provide excellent sightlines to all sides of the machine. It also features the new and enhanced joystick controls found in the most recent generation of CASE N Series backhoes, as well as in-cab amenities such as premium seat options and Bluetooth radio.

All of this is achieved with a machine that significantly improves the working environment for the operator and laborers alike, as it runs with zero emissions, and significantly lowers sound levels on the jobsite for improved communication between the operator and staff on the ground.

"The 580 EV performs like a CASE backhoe — matching the power and performance expected from CASE with the advantages of an electrified machine," says Zieser. "Operators will experience the same digging, lifting and craning performance achieved in a diesel-powered machine in a quieter, emissions-free work area. That's the ultimate goal of our sustainability efforts — improve the world around us, make equipment more sustainable, and to do so while finding new ways to improve productivity and the experience of the people who use the equipment."

Adding Power and Ease to the Ride

CASE has partnered with Michelin on tires for two of its alternative-powered equipment solutions — the methane-powered ProjectTETRA wheel loader, and now the 580 EV backhoe loader. The 580 EV backhoe loader showcased at CONEXPO-CON/AGG 2020 includes MICHELIN CrossGrip tires that feature a non-directional tread design and provide exceptional handling, comfort and high-load capacity for operation on a variety of surface conditions from asphalt to snow.

"The MICHELIN CrossGrip tires are great for general use with construction equipment, and offer great handling and reduced rolling resistance," says Zieser. "Whether under full load or roading to a jobsite, these tires will provide the optimal match of power and efficiency for an electric vehicle."

The new MICHELIN CrossGrip is a multi-purpose radial tire designed for use on the road, grass and snow. Using a special rubber compound, this four-season tire is designed for high-load-capacity use on loaders, backhoes, telehandlers and tractors. The tire has a patented, non-directional tread for excellent handling in both forward and reverse gears. With 196 tread blocks per wheel rotation, the tire achieves driver comfort by reducing vibration. Asymmetrical lateral blocks help to provide good traction in winter conditions when short starting and stopping distances are imperative for safety. Reinforced for excellent puncture resistance, CrossGrip is designed to offer increased productivity and can be studded for ice usage.

"We designed the CrossGrip tire for year-round use — and backhoe loaders responding to utility or municipal demands require that level of availability and performance," says Justin Brock, senior marketing manager, Michelin North America. "Its unique design provides excellent reliability and traction, helping the industry's first fully electric backhoe loader road and operate even more effectively in all conditions. We are proud to outfit a first-of-its-kind machine with the first CrossGrip backhoe tires — showcasing two great new technologies for the construction industry."



The Future of Electric

The 580 EV is the first formal entry into the electric equipment market for CASE. The manufacturer, in partnership with FPT Industrial, continues to explore additional solutions in electrification, alternative fuels and alternative propulsion systems for equipment across all product lines and industries that help achieve sustainability for all in the construction industry without sacrificing power and performance. These solutions will be introduced and brought to market as industry demand requires.

"We're proving the viability of electrification at the larger end of the compact and light equipment spectrum," says Zieser. "Our goal now is to further expand electrification and alternative propulsion into other product lines and markets that will also see the benefits from these advances related to sustainability and performance."

For more information on the new CASE 580 EV electric backhoe and details on ordering/commercial availability, visit CaseCE.com/580EV.

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CASE Construction Equipment sells and supports a full line of construction equipment around the world, including the No. 1 backhoe loaders, excavators, motor graders, wheel loaders, vibratory compaction rollers, crawler dozers, skid steers, compact track loaders and rough-terrain forklifts. Through CASE dealers, customers have access to a true professional partner with world-class equipment and aftermarket support, industry-leading warranties and flexible financing. More information is available at www.CaseCE.com.

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