

The Road to Zero Emissions: Pairing the Waste to Energy

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EXPLORING SUSTAINABILITY INNOVATIONS FROM STEAM TO ELECTRIFICATION TO ALTERNATIVE FUEL

While “Back to the Future” presented a world filled with flying cars, hoverboards, and countless technological advancements, Oct. 21, 2015, came and went with no daily commute in a flying automobile.

That’s not to say technology has not progressed, but advancements have just been in other avenues. In the construction industry, we’ve seen advancements in manufacturing and design capabilities as well as machine applications across jobsites.

Across the industry, many innovations have been siloed to create an advantage for a specific brand, but some innovations have been a response to challenges that we each face — seeking a solution to reduce our carbon footprint.

One of the most significant challenges is curbing emissions — the “road to zero.” With governments implementing stricter standards on emissions, legislation ensuring the progression of sustainability, as well as increasing environmental, social and governance (ESG), and shareholder commitments, many manufacturers are committed to making machines that produce less emissions for the same completed work while also reducing operating costs for customers.



Since the steam engine was developed by Thomas Newcomen in 1712, there have been many evolutions. From internal combustion engines (ICE) to power engines with gas, diesel, or biofuel, strides have been made in technology. Today’s electric-powered machines are a great alternative to fossil fuels, as they allow for zero emissions at point of use. For compact equipment that is operated for a few hours a day and uses little fuel, electric is a viable solution.

But lithium-ion batteries do have limitations. One issue with recharging machines on remote sites is that recharging locations are usually diesel-powered generators that still contribute to emissions, and machines must be brought to the charging point. For larger machines, batteries become impractical. This is due to their weight, cost, and the loss in

hours worked, which is a consequence of the time required to recharge the machine. Simply put, larger equipment requires
