UNIVERSITY OF LOUISVILLE ADOPTS PROPANE TO ADVANCE SUSTAINABILITY EFFORTS

A PROPANE CASE STUDY

PROPANE-POWERED MOWERS REDUCE GREENHOUSE GAS EMISSIONS, FIT SEAMLESSLY WITH UNIVERSITY'S EXISTING GREEN PRACTICES

When the University of Louisville's president signed the American College and University Presidents' Climate Commitment in 2008, the goal to reduce greenhouse gas emissions became a campus-wide priority. The university's Grounds Services Department was not exempt from these initiatives. According to Aaron Boggs, assistant director of maintenance and renovations, propane provided a perfect way to green their operations while also greening their bottom line.

"With budget cuts year after year, we needed a solution that would allow us to save money while also meeting the emissions reductions requirements," said Boggs. "After doing considerable research, I realized propane was our best option for maintaining productivity and performance while reducing costs and emissions."

WEEDING OUT OTHER ALTERNATIVES

Before making the switch to clean, American propane, Boggs considered other alternatives such as solar, electric, and diesel. Solar- and battery-powered mower technology wasn't evolved enough and posed logistical challenges, including a lack of sunlight and battery storage. Tier 4 emissions requirements deterred Boggs and his colleagues from adopting diesel.

"After weeding out the alternatives, we found propane would get the same productivity and power as conventional fuels, as well as a low total cost of ownership, which would please the school's administration and the state's taxpayers," said Boggs.

Boggs also appreciated that propane would eliminate the threat of maintenance issues that occur with ethanol, and as a closed fuel source, propane is a safe fuel because it isn't exposed to potential causes of ignition. Propane also eliminates spillage and theft, and it's an American-made fuel, which helps the University of Louisville reduce its dependence on foreign oil.

MAKING THE MOVE

Boggs made the decision to convert the department's mowers to propane in the spring of 2011. With a certified

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CHALLENGE & SOLUTION

The University of Louisville Grounds Services Department recognized the need to reduce emissions and incorporate sustainability into daily grounds operations on the heels of a larger campus-wide green initiative in 2008. After researching several alternative fuel options, the department adopted propane-powered mowers to maintain the campus's green spaces.

RESULT

- Propane-powered mowers reduce greenhouse gas emissions by more than 15 percent and carbon monoxide emissions by more than 40 percent compared with gasoline-fueled mowers.
- U of L's propane contract ensures the university's cost of propane will never exceed the cost of gasoline.
- The Grounds Services Department has saved an average of $2,000 annually by switching to propane.

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conversion partner's assistance, six zero-turn, two commercial walk-behind, and three push mowers were converted to run on propane.

"Our conversion partner provided training and talked with the grounds maintenance team to set everyone at ease with the new fuel," Boggs said. "If there were any concerns about adopting the fuel originally, the group meeting quickly quelled those fears."

Boggs also had his own apprehensions at first. He was concerned mower operators would not use the entire propane tank, leading to wasted fuel. After learning a bit more about propane's closed-fuel system, his fear was diminished.

"In reality, one of the main benefits of propane is that fuel is never wasted due to its closed fuel system," he said. "Spillage is impossible, eliminating waste and ground contamination, and there are always extra cylinders ready to go when you need them."

Additionally, the University of Louisville enjoys the minimized downtime and ease with propane refueling. Because they implemented a cylinder exchange program, their propane provider comes in and switches out their cylinders, allowing the crew to spend more time on the job and less time filling up at the pump.

NUMBERS DON'T LIE

University of Louisville was pleased that the upfront cost of converting the existing mowers was so affordable: Conversion kits plus labor costs added up to approximately $1,000 per large commercial mower. Additionally, the university signed a contract with a local propane retailer that ensured they would never pay more than the price of gasoline. "This has been a huge benefit to us as we know that we'll always save on fuel costs," Boggs said.

More and more, financial assistance is available for grounds departments making the switch to propane. The Propane Education & Research Council, for example, routinely offers an incentive on new propane mower purchases and conversions to help lessen the upfront costs associated with converting a department's mower fleet to propane power.

The university has since recouped their upfront costs without local or state incentives, and reports saving about $2,000 in fuel costs each year with propane when compared with gasoline.

"Any time I can save my boss money is a good thing. And while he had concerns initially, the numbers don't lie. We're funded with state tax payers' dollars, so it's essential to spend wisely," said Boggs.

While the cost savings has been a huge added benefit to University of Louisville, cleaning up the community was always its primary concern. Propane-powered mowers reduce greenhouse gas emissions by more than 15 percent and carbon monoxide emissions by more than 40 percent compared with gasoline-fueled mowers.

"Any mowers we purchase from here on will be dedicated to operate on propane," said Boggs. "We've had an extremely positive experience with propane, and the fuel just makes sense for landscaping equipment."

FOR MORE INFORMATION

To learn more about propane-powered lawn care equipment and the Propane Education & Research Council, visit **propane.com/commercial-landscape**.

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The Propane Education & Research Council was authorized by the U.S. Congress with the passage of Public Law 104-284, the Propane Education and Research Act (PERA), signed into law on October 11, 1996. The mission of the Propane Education & Research Council is to promote the safe, efficient use of odorized propane gas as a preferred energy source.

PROPANE EDUCATION & RESEARCH COUNCIL