MARCH 2023

ABOUT THIS PROJECT

PROJECT NAME: Evaluating Alternative Fuels in Snowplow/Maintenance Vehicles and Identified Barriers to Adoption

PROJECT NUMBER: RE-22017

PROJECT FUNDING PROGRAM:
State Planning and Research

PROJECTED END DATE: October 2023

PROJECT CHAMPION:
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RESEARCH IN PROGRESS

Biofuel-powered plows may lower carbon emissions without compromising performance

Iowa DOT is a national leader in alternative fuel research and adoption, having used biodiesel-petroleum blends to power its maintenance fleet for the past 20 years.

Building upon this important work, the agency launched a pilot project in 2019 to reduce its carbon footprint even further. By retrofitting 10 of its snowplows with fuel systems that can run on both petroleum and biodiesel, Iowa DOT became the first transportation agency in the country to use a 100% renewable fuel in its plows. Comparing the performance and fuel consumption of the modified plows against Iowa DOT's traditional diesel-fueled snowplows, the agency has collected significant data demonstrating the costs and environmental benefits of making the switch to biodiesel.

The information obtained through this pilot project will help the agency make better-informed investments for its fleet in the future, as well as provide training and experience for the state's equipment mechanics and operators.

"This project helps Iowa DOT verify that higher blends of biodiesel are a viable option for its fleet," said Todd Cogdill, Iowa DOT's fleet manager. "We needed to be confident that vehicles running on alternative fuels would be able to clear snow and ice just as effectively as those with traditional diesel engines."

Biodiesel is made made from a variety of renewable resources such as soybeans and other plant oils. Using it in the state's fleet can reduce hydrocarbon emissions by as much as 67 percent. An additional benefit, Cogdill noted, is the ability to support Iowa's local agricultural and biofuel industries.

"Iowa is a state that relies heavily on its farmers and agricultural communities," he said. "We are always on the lookout for opportunities to buy Iowa's ag-based products."

The research is expected to conclude in October 2023.

To learn more about this project and subscribe to updates, visit Idea #3080.

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