

Methane-powered tractor could cut farmers' costs, emissions

August 10 2015, byColleen Barry



In this photo taken on June 10, 2015, a moment of the presentation and live demonstration to introduce the New Holland T6 Methane Tractor in Turin, Italy. The new technology is being developed to respond to the future needs of the agriculture industry, with the goal of making farms self-sufficient and sustainable. (AP Photo/Massimo Pinca)

Luca Remmert's dream of running a self-sustainable farm is within sight. He produces energy from corn and grain near the northern Italian city of



Turin and hopes in the not too distant future to run all of his eight tractors on methane generated at the farm.

Remmert's 450-hectare (1,100-acre) La Bellotta farm has been testing a second-generation prototype of what will be the first tractor to run on methane, the T6 by New Holland Agriculture.

Methane would be 30 percent cheaper than diesel. And for farms that produce their own bio-methane, the costs of fuel would drop to nothing. Bio-methane is a type of gas that is produced by the processing of organic waste—something farms have a lot of.

The technology will likely be attractive to farmers in many developed economies, particularly those that are turning to the production of biofuel due to a squeeze on profits on food products.

"When the machinery is ready, I will be among the first customers," Remmert said recently at the farm, where New Holland was showing off the technology, scooping fermented biomass into the plant.

The methane-run T6 would hit production in about five years, according to New Holland, which is a subsidiary of CNH Industrial NV, a company spun off from Fiat Chrysler Automobiles NV.

Beyond cost savings, the new technology would be more environmentally friendly. The prototype produces 80 percent less pollution than a standard diesel tractor and would help fulfill future EU greenhouse gas targets, which are expected to require a 20 percent reduction across Europe by 2020.

Carlo Lambro, the brand chief at New Holland Agriculture, said the methane tractor, launched at the Milan Expo 2015 world's fair focused on food security, requires little industrial investment to convert the



normal diesel engine.



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He noted that methane also fits the strategy of the wider corporate group, which includes Fiat Chrysler Automobiles NV. The Fiat 500 and Fiat Panda, for example, also have methane-powered versions.

There are, however, a few hurdles to bringing the new tractor to market.

For a farm to get the most savings out of it, it would have to be able to produce bio-<u>methane</u>, which has significant up-front equipment costs.



So its success will depend on financial incentives, with northern European governments, particularly Germany, being most supportive to date. Such investments make more sense for larger farms than small, family-run farms that characterize agriculture in some countries, like Italy.

In addition, the drive toward biofuels is being slowed by the sharp drop in the cost of fossil fuel over the last year, energy analysts say, as well as environmental concerns about the transformation of farmland into energy production.



In this photo taken on June 10, 2015, New Holland Brand President Carlo Lambro speaks during at press conference for the presentation and live demonstration to introduce the T6 Methane Tractor in Turin, Italy. The new technology is being developed to respond to the future needs of the agriculture industry, with the goal of making farms self-sufficient and sustainable. (AP Photo/Massimo Pinca)



Remmert says that in his case, he literally would have lost the 50-yearold farm if he hadn't converted to biofuel production from beef cattle five years ago. He estimates that in Italy, about 3,000 square kilometers (about 1,150 square miles) of farmland are lost every year as producers give up their activities due to financial difficulties.

The biogas his farm produces runs an engine that supplies enough electricity into the grid to power 10,000 households a year. The by-product of the fermentation to produce the biogas is used to fertilize the fields, which Remmert says saves him about 300,000 euros (\$335,000) a year in chemical fertilizers.

The carbon emissions saved from fossil fuels amount to 4,000 tons a year, according to farm statistics.

"If this isn't paying attention to the environment, I don't know what is," Remmert said.

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Citation: Methane-powered tractor could cut farmers' costs, emissions (2015, August 10) retrieved 27 April 2024 from <u>https://phys.org/news/2015-08-methane-powered-tractor-farmers-emissions.html</u>

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