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Got Manure? These Trucks Run on It

By Ben Mack [✉](#) February 19, 2009 | 3:44:46 PM Categories: [Biofuel](#)



A California dairy has converted a pair of 18-wheelers to run on biomethane produced from cow manure, creating what is believed to be the nation's first cow-pie–powered trucks.

Hilarides Dairy will use manure produced by 10,000 cows to generate 226,000 cubic feet of biomethane daily — enough to reduce the Central Valley farm's diesel fuel consumption by 650 gallons a day.

"For us it made sense to invest in this technology. Now we can utilize the dairy's potential to power our trucks in addition to generating electricity for our operations," Rob Hilarides (pictured above), owner of the dairy, [said](#). "This will significantly reduce our energy costs and give us some protection from volatile energy prices."

Not to mention something to do with all that manure.

Hilarides announced the conversion at the World Ag Expo in Tulare, California, and it begs the question "Got Manure?" Methane is a natural byproduct of the microbial process that breaks down sewage, and it is emerging as a viable alternative to gasoline and diesel. City officials in Oslo, Norway, recently announced they would [convert 80 municipal buses to run on methane](#) generated from human waste.

As gross as it may sound, Hilarides isn't shoveling cow pies into the fuel tanks of his rigs. The bio-gas manufacturing process involves flushing manure and other waste from the cows' stalls into a covered lagoon where bacteria breaks it down. Methane is pumped out of the lagoon to a refinery that removes carbon dioxide, hydrogen sulfide and other impurities. The purified methane is pressurized before being pumped into the trucks; the Cummins engines have been converted from compression-ignited diesels to spark-ignited methane-burners. Hilarides financed the project with a \$600,000 grant from the [California Air Resources Board Alternative Fuel Incentive Program](#).

"It's energy projects like this that will reduce greenhouse gas emissions and get us off our dependency on foreign oil," Mary Nichols, chairwoman of the California Air Resources Board, said in a statement. "It also addresses sources of long-term air and water pollution problems."

Using cow manure to produce bio-methane cuts greenhouse gas emissions in two ways. Burning biomethane produces less pollution than conventional fuel, and producing it cuts down on the methane released into the atmosphere by the manure itself.

Biomethane advocates say the wonder gas can turn rural communities like Lindsay, California — where Hilarides Dairy is located — into alt-fuel producers. Allen Dusault of Sustainable Conservation says manure from the nation's dairy cows could generate enough fuel to fuel some 1 million vehicles, a carbon-cutting move [he claims](#) (.pdf) that would be the equivalent of taking 16 million gasoline or diesel vehicles off the road. Others have said California's 1.7 million dairy cows could produce 8 billion cubic feet of methane a year, the equivalent of more than 150 million gallons of gasoline.

"In California the manure is plentiful," Dusault [said](#). "The technology is here and public-private partnerships can make this work. Biomethane is the only vehicle fuel that is carbon negative."

Photos: Western United Dairymen. Used with permission.

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