

Running your car on milk – sort of

TULARE

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- **Study shows dairy biomethane may substitute as vehicle fuel**
- **Central Valley could be the 'Houston' of the methane fuel**

How times have changed. In the 1960s, gasoline marketer Exxon used the phrase “Put a tiger in your tank” to tout its gasoline.

Today, that might be modified to “put a cow in your tank.”

Methane gas derived from dairy manure offers a substitute for natural gas that can power motor vehicles and generate electricity, according to a study released this week by a collaboration of energy, dairy and environmental groups.

Known as biomethane, the gas is entirely renewable, environmentally friendly, and can be produced locally, the report says.

“It is not actually the manure we'll put in the tank,” says Paul Martin, environmental services director of Western United Dairywomen. “We'll use the gas that forms when manure is processed in a methane digester and then upgraded to vehicle fuel quality.”

Mr. Martin says there are more than a dozen methane digesters operating or under construction on dairy farms in California. The methane digesters can be upgraded to make biomethane for vehicle fuel, the report says. As technology advances, market forces evolve and infrastructure is created, biomethane may become a viable vehicle fuel on the farm and/or for local sale and distribution.

With about 1.7 million dairy cows on Central Valley farms, the region could become a major source of vehicle fuel if everything plopped into place.

"There are 8.5 million cows in the United States, each producing enough manure to potentially generate about 30 cubic feet of biomethane per day, which could replace significant amounts of natural gas at today's prices," says Allen Dusault, biofuels project manager for Sustainable Conservation of San Francisco. "If used as vehicle fuel, biomethane could power a million cars."

California has the technically feasible potential for producing about 18 billion cubic feet of methane a year, equivalent to over 150 million gallons of gasoline, the report says.

The San Joaquin Valley, where most of the cows reside, has some of the nation's most polluted air. A dairy biomethane industry along Highway 99 could serve as the start for a renewable fuel highway, possibly evolving in the future into a 'renewable hydrogen highway,' should it prove advantageous to convert biomethane to hydrogen, say the supporters of the idea.

"This is no 'cow-pie in the sky' solution," says Mr. Dusault. "The technologies for converting dairy manure to biomethane are already used at several landfills around the United States. Sweden has 20 plants producing biomethane and runs 2,300 buses on it. As natural gas prices continue to rise, biomethane fuel is becoming cost-competitive with natural gas and diesel, and is much cheaper than hydrogen."

The study was funded by a grant from U.S. Department of Agriculture Rural Development. Project partners include Western United Dairywomen, Sustainable Conservation, Institute for Environmental Management, Great Valley Center, CalStart and RCM Digesters.

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