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Proponents get a whiff of manure's potential

New interest seen in its use as a power source

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ROUND ROCK — Installing solar panels and windmills may be a more elegant way to generate renewable, green power. But applying extreme heat to cow manure also can do the trick.

It's no joke. Animal manure, one of Texas' most abundant natural resources, can be converted into electricity and other power sources, and may well have a role in reducing the nation's dependence on fossil fuels.

The old idea has regained momentum in recent years amid rising energy costs and federal moves to limit greenhouse gas emissions — like the methane in livestock dung.

That helps explain why more than 100 scientists, environmental regulators and farmers met at a Round Rock hotel this week and — with straight faces and surprisingly few snickers — talked for two days about strategies for managing manure.

In case anyone on the outside wondered, “this is not like an everyday kind of deal,” explained Garrett Kleman, who works at Bartlett Cattle Co. feedlot in Tulia and attended the conference.

In fact, it's been 10 years since Texas AgriLife Extension Service and the Texas A&M University System hosted the last such gathering.

But even with renewed interest in the topic today, it may be awhile before America is running on cow power. Equipment to convert manure into energy is still expensive and evolving, and environmentalists worry about air pollution from the process. Manure is also costly to transport, which could limit its use as a fuel source to regions where livestock is raised.

That means areas like the Panhandle — which one presenter Wednesday called the “Saudi Arabia of cow manure” due to its concentration of feedlots and dairy farms — could have much to gain. But Houston, not so much.

“It won't make a measurable difference nationwide, but it could on a subregional scale,” said John Sweeten, an AgriLife Research director and professor in Amarillo, who attended the conference.

Even if every pound of manure in the U.S. were used, it would meet no more than 3 percent of the nation's energy needs, said Saquib Mukhtar, an agricultural engineering specialist with Texas AgriLife Extension Service in College Station and conference chair.

Climate change

The threat of tougher environmental regulations in coming years may give farmers enough reason to consider their options. Congress is mulling climate change legislation that aims to sharply reduce

America's carbon emissions over time, while the Environmental Protection Agency is moving to regulate greenhouse gases.

"If there is some sort of requirement to reduce greenhouse gas emissions, that creates an economic incentive to handle manure differently," said John Kruse, an agricultural economist with IHS-Global Insight in Columbia, Mo.

Manure can be burned for cooking or lighting or used to create gas, electricity and fuel for a boiler. Doing so also could reduce consumption of natural gas and coal, as well as help farmers dispose of excess manure they don't already use or sell as fertilizer.

The concept gained popularity during the energy crises of the 1970s, and has been put to use on a limited scale in Texas and elsewhere. But it lost momentum in the 1990s, when oil and gas prices plummeted and stayed low.

Since then, the technology to convert manure into energy has vastly improved, conference presenters said.

Pollution controls

Michael McGolden, CEO of Coaltec Energy USA, said his company's gasification system could handle about 1,500 pounds of manure per hour and could be controlled remotely via the Internet. Sergio Capareda, an assistant professor at Texas A&M University, said he is working on a large gasification system that is portable and able to switch seamlessly between agricultural waste products.

But Neil Carman, director of the clean air program for the Sierra Club, said even advanced equipment will still require pollution controls to handle greenhouse gases spewed in the process, which "could be quite expensive."

At the conference, several livestock industry attendees expressed interest in emerging manure-to-energy technology, but acknowledged that some people may need more convincing.

"You're needing that first big project to see what the potential is," said Darren Turley, assistant executive director of the Texas Association of Dairymen.

"It's so new, we haven't even talked about it yet," said Kleman, from Bartlett Cattle. "You have to wonder what it would cost."

Still, he said, there's no denying the clear upside to using manure as a fuel source: "There's always going to be more."

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